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ORIGINAL ARTICLES

THE PROGRESS OF ACUTE APPENDICITIS AT THE BOSTON CITY HOSPITAL FROM 1880 TO THE PRESENT DAY

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It was in 1896 that J. Bapst Blake had published his account of an examination of the Boston City Hospital records in regard to inflammatory processes of, or about, the vermiform appendix¹. He covered all the cases from 1880 to July 1, 1895. The purpose of this paper is to extend the account to the present day.

The earliest mention found by Blake of a localized inflammatory process about the appendix was in the year 1882 under the head of "Perityphlitis." In 1885 the diagnosis, "Typhlitis," appeared, and not until 1886 and 1887 did "Appendicitis" gain mention. The number of cases of appendicitis recognized and treated increased, and in the year ending July 1, 1895, there were 113 cases of appendicitis, none of perityphlitis and only one of typhlitis.

Excluding from consideration the so-called typhlitis and perityphlitis, he found 334 cases which were entered on the records as appendicitis; 47 fatal cases were recorded—38 operative and 9 non-operative. This was 14% mortality. The majority of fatal cases entered at periods varying from five to twenty days after the onset of pain and fever so that an early operation was impossible, even if advisable.

In 1900, H. C. Low submitted a bacteriological report of 100 cases² of acute appendicitis and discussed the etiology of appendicitis.

In 1902, an article appeared by Monks and Blake on the normal appendix³. The following year Hubbard presented a paper on intestinal parasites in appendicitis and peritonitis⁴, concluding that they can cause appendicitis only through their presence as a foreign body. The next publication appeared in 1913, in which Cheever discussed acute angulation of the terminal ileum as a cause of intestinal obstruction in certain cases of acute appendicitis⁵. The last paper concerning appendicitis is that of Nichols which appeared in 1920 and had to do with the early diagnosis of acute appendicitis⁶.

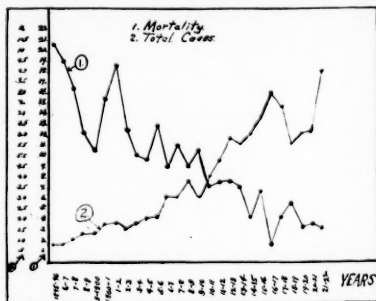
The following figures are taken from the records of the Boston City Hospital. With these figures the per cent. mortality has been calculated and graphs made showing the mortality drop and the yearly rise of total number of cases:

Year	Number of Cases	Mortality
1895-1896	82	20.7%
1896-1897	84	19.0%
1897-1898	109	16.5%
1898-1899	137	12.4%
1899-1900	146	10.8%
1900-1901	173	15.6%
1901-1902	191	18.8%
1902-1903	164	12.8%
1903-1904	194	10.3%
1904-1905	211	9.9%
1905-1906	229	13.0%
1906-1907	322	9.0%
1907-1908	315	11.1%
1908-1909	399	9.2%
1909-1910	314	10.8%
1910-1911	415	7.2%
1911-1912	478	7.7%
1912-1913	590	7.8%
1913-1914	559	7.1%
1914-1915	604	4.1%
1915-1916	744	6.8%
1916-1917	804	1.8%
1917-1918	737	4.4%
1918-1919	559	5.7%
1919-1920	608	3.4%
1920-1921	632	3.6%
1921-1922	913	3.1%

As one would expect, these figures and graphs show that there has been a progressive decline in the number of fatal cases of appendicitis at the Boston City Hospital. On the other hand, the number of cases recognized and treated has been progressively increased. The lowering of mortality is best explained as being due to earlier recognition of the disease and improved methods of treatment. It is also only fair to say that the increase in the number of cases is due to improved diagnostic methods as well as to increase in population.

How has the earlier recognition of acute appendicitis come about? The chief reason is the great number of cases that are now admitted yearly to the Boston City Hospital. Experience with these cases has been the best teacher. Again, house surgeons enjoy doing appendectomies, so much so that they are sometimes

accused of having the "furor operandi" or likened to "mastiffs straining at the leash." The natural sequel of this "furor operandi" is the ease with which a house surgeon recognizes this disease during the last four months of his surgical internship. Each house surgeon passes on the "knaek" of recognizing appendicitis gained from the experiences of the visiting surgeons as well as from his own. As a result few cases are really missed.



The drop in mortality may be taken as a proof of the soundness of the methods employed at the Boston City Hospital for the diagnosis and treatment. Because of this a brief resume of the routine procedures is well worth while. No attempt will be made to include a discussion of the pitfalls into which one may be led in the differential diagnosis of this disease.

Appendicitis is found at the Boston City Hospital to be most common in young adults and occurs in males a little more often than in females. It is to be remembered, however, that it may and does occur at all ages.

The patient tells as a rule that he suddenly developed more or less generalized abdominal pain which he is prone to speak of as "belly-ache." With this he was "sick to his stomach" and maybe vomited. The pain gradually settled in his right lower abdomen where he can very often place a finger on the "sorest spot" which is usually at or near McBurney's point. With gangrene or perforation, however, sudden relief of tension in the appendix may have brought about a puzzling disappearance of these subjective symptoms.

Fever ranging between 99 degrees and 102 degrees is the rule as a result of the local inflammatory process. The pulse is accelerated in proportion from the beginning and it is worth noting that a stimulated pulse, i. e., one with a little more "bound" than usual may be one of the earliest indications of an active process in the appendix. As one would expect, in spreading peritonitis the pulse is rapid, full, and of high tension in accordance with the severity of the inflammatory process.

The urine is examined routinely and in acute appendicitis an essentially negative urine is the rule. A white blood cell count is also a routine procedure. The presence of a leucocytosis may be regarded as the most definite single sign of the presence of pus, and high white blood cell counts are met with in suppuration. A white blood cell count, therefore, is especially valuable in appendicitis where the other evidences of suppuration are often equivocal. Accordingly, when no pus is present there is only slight leucocytosis usually not exceeding 15,000 per cubic mm. When pus is present, the number is much greater, generally not less than 18,000.

Local examination reveals an abdominal wall more rigid than usual. In many cases, especially early in the disease, spasm is more or less limited to the right lower quadrant. The right leg is often drawn up to relax the muscles, and in bad cases breathing is entirely thoracic. A marked feature of inflammatory pain is that it is always aggravated by pressure. Pain due to mechanical or digital pressure is known as tenderness and when localized near McBurney's point it is almost pathognomonic. It is astonishing how much disturbance a small bead of pus under tension may sometimes produce. Localized tenderness is generally accompanied by localized spasm in the same area. With a pelvic appendix tenderness over Poupart's Ligament is often elicited. In many cases when the appendix is directed backwards, i. e., retrocecal, there is marked tenderness in the lumbar region; but, if it points downwards into the pelvis, the pain and tenderness may not be evident except on rectal or vaginal examination, which should never be omitted. A finger in the rectum or vagina may elicit tenderness or demonstrate an inflammatory mass and so clinch the diagnosis.

With abscess formation a well-marked fullness may sometimes be felt in the right iliac fossa. This usually takes several days to develop. Tumor with increasing pain and tenderness with a rise of temperature and pulse-rate is almost diagnostic of abscess. In these cases the white blood cell increase is helpful as well as an examination by rectum or vagina or both.

It is very well known that simple appendicitis is prone to pass on to the stage when it is complicated by peritonitis, in which case, the abdominal wall is retracted and entirely rigid or "board-like." With this the patient presents the usual picture of grave toxemia and is content only when lying motionless.

The principles of treatment of acute appendicitis correspond in a general way to the local treatment of inflammation of bacterial origin in any part of the body, which is as follows: first, remove the cause, second, keep the part at rest, and third, promote the removal of exudate. Removal of the inflamed appendix is analogous to the removal of an infected foreign body such as a septic suture. Purgatives have no place in

the treatment of acute appendicitis because they violate the principle of keeping the part at rest. For this reason also the patient is kept in bed after operation. In accordance with the third principle, drains are inserted to promote the removal of exudate.

The accepted treatment at the Boston City Hospital, once the diagnosis of acute appendicitis is made, is to relax the patient with ether anesthesia, make a right rectus incision in the lower abdomen, incise the anterior layer of the rectus sheath, split or retract the muscle to expose the posterior layer of the rectus sheath which is opened with the underlying peritoneum.

If a simple inflamed appendix is found, a simple appendectomy is done by ligating the mesentery to the appendix, crushing and ligating the base of the appendix, severing the appendix with a knife and cauterizing the stump. No attempt is made to invert the stump. When hemostasis is well established, the cecum is dropped back and the area draped with omentum. The peritoneum and fascia are sutured with catgut. For stay and skin sutures silk worm gut is used.

If an abscess is encountered on opening the peritoneum the intestines are packed off with gauze strips wet with sterile saline solution. The abscess is then opened, exudate bailed out with dry gauze strips and the appendix removed if possible. A drain is placed to the bottom of the abscess cavity.

It is well known that the peritoneum can take care of a considerable amount of exudate. Nevertheless when exudate is found the appendix is drained. The presence of pus in the pelvis is always ascertained by dry sponging with gauze especially when in doubt and there is usually doubt in the acute stage or when periappendicular abscess exists. If there is exudate in the pelvis, a long cigarette drain is inserted to the floor of the pelvis.

If spreading peritonitis is found on opening the peritoneum, the simplest appendectomy is done and the pelvis drained. No mopping or irrigating is done. In these as in all other drained cases the patient is returned to bed and

blocks placed to elevate the head of the bed—Fowler's position—for forty-eight hours or longer, depending on the case.

The post-operative treatment is very important and it varies with the different types of cases. The general principle of treatment of keeping the part at rest is continued by confining the patient to bed, forbidding high enemas and cathartics, and discreetly resuming fluid and food intake beginning with small amounts when all vomiting has ceased.

The removal of drains is still a much mooted question. It is correct to say that as a rule the drain to the appendix stump can be removed safely on the fifth day after operation and the drain to the pelvis on the seventh day.

Stay and skin sutures are removed on the ninth and tenth days after operation. Cases which did not require drainage get up about the twelfth day if there are no complications. Drained cases are kept in bed a few days after all discharge has ceased because of the possibility of hernia formation through the incision.

The fore-going, in a general way, covers the methods of diagnosis and treatment of appendicitis at the Boston City Hospital. Few cases of this quite common disease really escape recognition at this clinic. The drop in mortality from this disease is good proof that the methods are sound. Therefore, the real problem now is that of educating the laity to the possibility that the so-called "belly-ache" may be an attack of acute appendicitis about which they should consult their physician, who, in turn, must regard "belly-aches" as a signal for careful examination of the patient. If this is brought about, cases of acute appendicitis will be recognized and treated earlier with the result that the mortality rate will approach zero.

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SATISFACTORY METHOD FOR THE EXAMINATION OF FAECES FOR GASTRO-INTESTINAL PARASITISM

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THE frequency with which the diagnoses of diseases dependent upon laboratory procedures is made parallels the facility and simplicity of the methods employed. Any laboratory method that lacks either of these working essentials will of necessity discourage its employment. Particularly are these principles applicable in the diagnosis of parasitism of the gastro-intestinal

tract. The diagnoses of these infestations are almost wholly dependent upon laboratory methods.

Various methods have been proposed for the examination of stools for parasites, parasitic ova and cysts. These methods have been employed by our service at the Boston City Hospital and have been found to yield satisfactory results only in cases where infestations were severe, but

were found to be quite unsatisfactory in milder infestations. It has become traditional that two or three or perhaps five stool examinations with negative findings do not necessarily exclude a diagnosis of a parasitic infestation. This in itself serves as a confession that the methods employed are unsatisfactory or unwisely chosen. It is therefore obvious that a number of parasitic cases pass by undiagnosed. This fact has stimulated the writer to devise a new method which has been found to give satisfactory results.

It is the aim of this paper to present the author's method of concentrating parasitic ova and cysts and to demonstrate its efficacy by comparative studies with the methods ordinarily employed.

The following methods have been employed and quantitatively studied:

1. *The Direct Smear Method.*

A spec. of feces is thinly spread upon a glass slide and examined microscopically.

2. *The Salt Floatation or Brine-loop Method.*

This method is essentially the brine-loop method of Kofoid and Barber.¹ About one ounce of fecal matter is thoroughly stirred with two parts of concentrated salt solution in a paraffined cup. A throat stick split at one end or an electric soda mixer may be employed for the mixing process. A thin layer of steel wool evenly spread to fit the cup at the level of the stool mixture is carefully forced into the fluid to a depth of two or three centimeters below the fluid level. The steel wool serves as a coarse filter and permits only minute particles to rise to the surface. The preparation is allowed to stand from one half hour to three hours. Usually three hours is the optimum time. A wire loop, one half inch in diameter, is slowly immersed into the brine solution and withdrawn. It will be noticed that the thin surface film is adhering to the loop. This film is transferred to a glass slide and examined microscopically.

3. *A Modification of the Salt Floatation Method.*

The writer has devised this method in cases where infestation is light and where further concentration is necessary for determining presence of ova after successful administration of anthelmintics. This method may, however, be advantageously employed in all cases where the salt floatation method is applicable. The procedure employed is identical with that of the salt floatation method described above up to the point where the wire loop is employed. It may be well to examine a few loops at this point and if negative to supplement that method with the following procedure:

A 19 or 20 gauge three inch intravenous needle threaded with a wire from base to point is forced through the paraffined cup one centimeter below the surface of the fluid level. The needle is directed upward at an angle of about thirty degrees until the surface film is reached. The wire is then withdrawn and the film together with the subjacent layer is allowed to

drain off until one cubic centimeter of the suspension is obtained in a graduated centrifuge tube. This is diluted with five centimeters of water and centrifuged at high speed for ten minutes and the sediment examined microscopically.

4. *Centrifuge Method.*

The procedure given here is essentially that described by Dock and Bass.² About one half ounce of faeces is well stirred up with three parts of water and strained through three layers of gauze. The filtrate is centrifuged for one minute at a low rate. Often a simple inspection of the centrifuged material will suffice in the determination of the layer desired for further treatment. The selected layer is then transferred to another centrifuge tube, washed with water and centrifuged before the final sediment is examined. Often washing the specimen of feces with alcohol and ether in equal parts will give a cleaner and more satisfactory preparation. Some of the coloring matter, probably urobilin, and fat droplets are removed by this additional treatment.

5. *The Ether Method.*

This method was devised by the author and in some respects simulates the method employed by Boeck.³

Procedure: About one ounce of fecal matter is thoroughly mixed with two parts of water by means of a throat stick or by an electric soda mixer and then filtered through three layers of gauze. About one ounce of the filtrate is then thoroughly shaken in a separating funnel with an equal volume of ether for about three minutes and then allowed to stand for three hours or longer. It is best to allow the ether mixture to stand for twelve hours or, if convenient, over night.

Two distinct layers will settle out. It will be found that the ether layer will extract most of the coloring matter and that practically the entire debris will rise into the ether layer in from three to six hours. When this separation is accomplished the aqueous layer is drawn off by means of a stop-cock. Care must be taken to include the zone of contact in the portion drawn off even at the expense of including a few cubic centimeters of the ether layer. Two tubes are then filled with this layer and centrifuged for ten minutes at a velocity of about 1600 revolutions per minute. The supernatant fluid is then poured off and the sediment examined microscopically.

A study of the efficacy of the various methods mentioned above has been carried out by the author. Three hundred stool examinations were carried out in these studies in which the ova of the following parasites were concentrated and quantitatively studied: *ankylostoma duodenale*, *ascaris lumbricoides*, *trichiuris trichiuræ*, *clonorchis sinensis*.

Observations on the concentrations of the ova of the *tenia saginata*, *tenia solium*, *dibothrioce-*

phalus latus, oxyuris vermicularis, necatur americanus and the cysts of the blastocystis hominis, giardia, chilomastix and entamoeba coli were carefully noted but no statistical studies made on account of lack of material.

Comparative studies were made statistically on one hundred stool examinations employing the direct, the salt floatation, the centrifuge and the ether methods.

Twenty-five stool examinations were made employing the author's modification of the salt floatation method in which negative results were obtained after anthelmintic treatment. Seven of these cases gave positive results by my modification.

dences of parasitism it cannot escape the opportunity to emphasize the uselessness and misleading results obtained by the direct smear method. Not infrequently are negative results obtained, not only in milder infestations but also in cases where infestations are severe. This method is useful only where the object is merely to adorn a "complete laboratory picture."

In ascariasis and trichiuriasis the "ether method" is much superior to the other methods. In ankylostomiasis the salt floatation method is superior although the "ether method" failed to show the presence of ova, but the ova were demonstrable in such large numbers by the salt floatation method that an error in technique must

Table Demonstrating the Relative "Concentration Coefficients" of Various Methods

Ova	Hookworm				Ascaris				Trichiuris			
	Dir- ect	Salt	Cent.	Ether	Dir- ect	Salt	Cent.	Ether	Dir- ect	Salt	Cent.	Ether
	1	8	3	10	0	0	1	12	0	0	1	6
	0	9	4	5	1	25	6	30	1	12	11	22
	0	7	4	5	1	15	10	25	1	8	2	2
	1	20	7	15	0	5	4	12	2	12	20	60
	0	12	0	0	0	0	0	0	0	7	0	0
	0	0	0	0	0	0	0	0	1	4	0	40
	0	4	0	1	0	0	0	0	1	7	2	25
Totals	2	60	18	36	2	45	21	79	6	50	36	155

The technique employed in the comparative studies was as follows:

One drop of the fecal material prepared by the various methods or a loop of the suspension in the salt floatation method was placed on a slide. A loopful approximates one drop quantitatively. A cover glass is placed over the material and is gently forced against the slide until the material is evenly spread. The number of ova seen in three such preparations was recorded in each of the four methods. To insure greater accuracy in counting a mechanical stage was employed. The results were tabulated as shown in the table below. This table is taken from one of the records of the Service for Tropical Diseases at the hospital and represents the results generally obtained by these methods. Five examinations showing no hookworm ova present by all methods are not recorded.

COMMENT

While this paper is chiefly concerned in presenting the new methods in searching for evi-

be considered in this particular instance. In summing the totals it is seen that for every ovum discovered by the direct method fifteen ova were seen by the salt floatation method, seven by the centrifuge method and twenty-six by the "ether method."

Considerable difficulties have been encountered in searching for the ova of the clonorchis sinensis by Shattuck and other investigators because of its minuteness and its consequent occlusion by the fecal debris in the methods hitherto employed. The writer has employed the smear, centrifuge, salt floatation, Bass's⁵ salt solution, Bass's⁶ calcium chloride centrifuge, Telemann's⁷ ether hydrochloric acid methods and various modifications of these methods. All of these methods were found to be unsatisfactory in determining the presence of these ova. Not infrequently no less than fifty slides would demonstrate only one ovum present.

The "ether method" proved its worth particularly in the search for these ova. Specimens giving negative results by the above mentioned

procedures in a series of fifty to one hundred slides not infrequently showed ova present in five to ten slides by this method. Two factors probably explain its efficiency. One is its high "concentration coefficient" and the other is the almost complete removal of obscuring debris.

CONCLUSIONS

1. The direct smear method is often misleading and is of no diagnostic value when negative.

2. The salt floatation method gave the highest concentration coefficient for the ankylostoma duodenale. The "ether method" however gave highly satisfactory results for this group and is perfectly reliable although its concentration coefficient is one half that of the salt floatation method.

3. In cases where infestation is light or where antihelminthics are being effectively employed, the centrifuge modification of the salt floatation method is recommended.

4. The routine centrifuge method almost universally employed in hospital work is not reliable. Its coefficient concentration is one fifth that of the "ether method." It is particularly unreliable in the search for the smaller ova and cysts

such as the clonorchis sinensis ova and the cysts of blastocystis hominis or entamoeba coli.

5. The "ether method" is highly efficient for cysts and ova and should be employed routinely. Its "concentration coefficient" is twenty-six, being twice that of the salt floatation method and five times that of the centrifuge method.

I wish to express my thanks to Dr. George Cheever Shattuck and to Dr. Albert Hornor for their helpful suggestions in carrying on these experiments. To Dr. J. Nute of the U. S. Immigration Station the Service for Tropical Diseases I feel grateful for his cooperation in supplying material to carry on this work.

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LOSS OF HAIR FROM COMMON CAUSES: AN EPITOME

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INTRODUCTION

Loss of hair may be considered physiological and pathological. The former occurs all the time during life and is noted with more or less concern, as long as the rate of regrowth keeps pace with the loss. Only when the loss of hair speeds ahead and the regrowth lags behind, does the physiological loss of hair attract more than passing notice, and all kinds of advice offered and followed with more or less success. It is interesting to know that the subject of loss of hair attracted the oldest Greek medical writers, and the terms we have are sanctioned by long use, and revered sponsorship. Hippocrates differentiated falling of the hair due to age as "madesis." Madarosis was loss of hair of the eye lashes. Phalacroisis was used to denote baldness beginning at the forehead. When carried on so that only a fringe remained over the ears meeting on the occiput, the condition was known as "Calvities Hippocratica." Ophiasis was the designation for loss of hairs in bands ordinarily at the periphery of the scalp. Opisthophalacroisis was baldness beginning at the back of the head. Oligotrichia meant a deficient growth of hair. Anaphalantiasis was loss of hair from the eyebrows; also known as Defluxio supercilium. Alopecia is a term denoting the process of hair fall and is de-

rived from the Greek meaning "the mange of foxes"; calvities is used to denote the end process of alopecia or the complete baldness.

CONGENITAL ALOPECIA

At birth, the hair of the scalp may be short and profuse, or even several inches long. After some weeks, these hairs may all fall out to be replaced by the more permanent hair. On the other hand, a child may be born without any hair whatsoever, and due to some atrophic disturbance of the follicles, may never have any hair. This is known as Congenital alopecia, or alopecia adnata. What causes this is not known. The anomaly may run in families. In well developed cases, none of the follicles develop hair at sites where puberty hairs may be expected. Associated dystrophy of the nails and teeth may be expected.

MONILETHRIX

Monilethrix is another congenital, and possible hereditary, disease of the hair follicles. The hair of the entire scalp except for a fringe below the occiput shares in the malady. Hair grows to a length of half to three quarters of an inch, and breaks off at a constricted part between swollen or beaded portions. Keratosis pilaris of the back of the neck usually accompanies the condition.

RACHITIS

Babies suffering with rachitis usually present a band of broken off hairs across the occiput where there is pressure from head rolling.



FIG. 5. Alopecia areata. Loss of hair in patches without inflammatory changes.

ALOPECIA AREATA

Alopecia areata also known as Area Celsi (Celsus 53 B. C.-7 A. D.) affects children and adults without prodromal symptoms, and without known etiology. Patches appear from dime size to scalp size free from hair, and without any evident disease of the exposed scalp. All possible explanations have been offered from reflex (disease of the eyes, teeth, tonsils, etc.) to bacterial, without general acceptance. Celsus described the ophiasis type of alopecia areata, the ribbon-like bands at the borders of the hairy-scalp, and it has been suggested that this type is less hopeful as regards return of the hair than patches more centrally located. Small patches of alopecia areata may enlarge by peripheral extension, or by new lesions at the borders. The hairs at the borders of the lesions which have not fallen show an appearance called exclamation point (!) because the shaft is thick and the root thinned with a node at the extreme tip.

Patches of alopecia areata most often show a regrowth of hair, beginning with unpigmented lanugo hairs, then more mature pigmented hairs. Occasionally, the new full growth hairs are pigment free, giving a piebald appearance to the hair growth. All too often, the patches do not resume any hair growth, or there may be a recurrence of the alopecia in the original sites, or repeated attacks in other portions of the scalp.

Alopecia areata is not limited to the scalp but may occur in beards, eye brows, etc. Rarely, all the hairs of the body are ultimately lost

causing a veritable alopecia universalis, but a few strands of hair most often remain to indicate that the loss was due to a coalescence of limited areas rather than a total defluvium.

TINEA

Tinea capitis or tinea tonsurans is a generic term now for infection of the hairs of the scalp with fungi of the trichophyton or epidermophyton series, of which there are numerous varieties culturally. Gruby (1810-1898) was the first to recognize the etiological significance of the tinea found in the affection. Sabouraud has



FIG. 6. Alopecia areata with regrowth of hairs; the new hairs coming in absolutely white.

more recently reviewed the entire work, and contributed many original investigations. The disease is almost exclusively a disease of childhood, and is self-limiting at the age of puberty, a phenomenon explained only recently by the disclosure of a trichophyton or toxin from the growth of the trichophyton which acted in the system as an antibody against its progenitors. We have also been introduced to the appearance of a trichophytid or generalized eruption of the skin which sometimes precedes the disappearance of a tinea kerion lesion by this autogenous method.

Tinea kerion, or Kerion celsi, is probably the result of accumulation of trichophytin locally destroying the tinea fungi or secondary infection of pus organisms. Tinea kerion clears up with the sear formation, destruction of the follicles and resultant loss of hair in the area affected.

The modern treatment of tinea tonsurans is epilation of all the hair of the scalp by measured dose of x-ray, treatment of the scalp de-

void of hair, and if there has been no reinfection or auto infection from any hairs not included in the x-ray epilation, the new hairs will be free from the parasites. X-ray by and for itself does not destroy the organisms.

FAVUS

Tinea favosa or favus of the scalp is another parasitic disease of the hairs and follicles. The organisms concerned are of the group known as *Achorion Schoenleinii*. Schoenlein was the first to demonstrate the organism which Romak named after him, but it was Gruby who independently described it and for the first time recognized its etiological significance in Favus. Clinically, favus of the scalp is characterized by the formation of a yellow shallow crust or

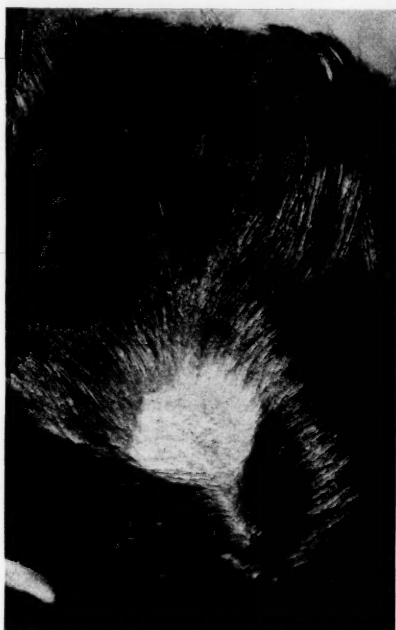


FIG. 8. Single patch of ringworm of the scalp with loss of hair.

scutulum. Favus, unlike tinea, extends beyond childhood into adult life and is a chronic persistent disease slightly less contagious than tinea, and leaving a scarred atrophic area.

SEBORRHOEA

Practically at all ages the scalp of civilized man is subject to defects in the secretions of the sebaceous glands of the hairs of the scalp. These defects may be of two types: over secre-

tion, and under secretion. The cause, except for methods of living, is not certain. Whether an infection is the primary cause of the disease, or the organisms found are secondary, is not assured. Although rare in children, it is not a disease of older people exclusively. At puberty, there is an exacerbation of activity of

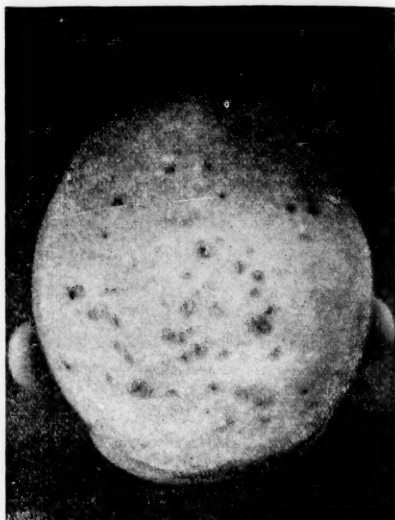


FIG. 9. Multiple patches of ringworm of scalp with loss of hair following exposure to x-ray as a curative measure. Properly administered, this x-ray loss of hair is temporary.

the glands of the scalp (with the inclusion of general glandular activity). Seborrhoea of the scalp and *acne vulgaris* are commonly associated. The bacillus of *acne*, the micro-bacillus of Sabouraud, and the *moro coccus* of Unna have been indicted by many but not always proven guilty. Seborrhoea of the scalp leads to alopecia unless properly treated. The treatment to be successful must be more than local treatment administered by barbers and hairdressers who proclaim themselves specialists in this form of therapy, for the general condition of the patient, his manner of living, etc., must be remedied. In certain individuals, the analysis of the blood for its chemical constituents discloses a high blood sugar.

PITYRIASIS SIMPLEX

Pityriasis simplex or "dandruff" is less dangerous than seborrhoea and implies a simple scaly character of the scalp, without involvement of the follicles or the glands. Because pityriasis and seborrhoea are the commonest conditions affecting the scalp it is not surprising that the two are concomitant, and that many misconceptions are rife regarding them.

General diseases of the patient, poor manner of living, unhygienic care of the scalp, repeated trauma by the wrong kinds of hair brushes and fine tooth combs, inexpert application of irritating "tonics" all have their share in the causation of the hyperkeratosis of pityriasis capitis. Uncomplicated cases of pityriasis



FIG. 1. Seborrhoeic disease of the scalp with attendant loss of hair in mild degree. This corresponds to the "dandruff" of common parlance.

simplex do not lead to alopecia, but infected pityriasis known also as Pityriasis steatoides leads to diffuse permanent baldness. The change from Pityriasis simplex to steatoides may hardly be noticeable in its incipency. The scales are far more greasy and more profuse; and the red areas of scalp extend beyond the hair line for an inch or so. It is not possible at this time to state definitely what bacterial agent is responsible among those proposed; more cocci of Unna; spores of Malassez; or Sabouraud's microbacilli.

The association of fatty scales and alopecia in Pityriasis steatoides is difficult to control therapeutically.

SEBORRHOIC DERMATITIS

Pityriasis steatoides may develop into seborrhoeic eczema or dermatitis seborrhoicum. The condition of the scales and the underlying scalp may not appear very much different in eczema seborrhoicum than in pityriasis steatoides, but the presence of a similar more or less superficial red scaly greasy condition of the skin distant from the scalp, in favored lo-

cations, as the middle of the chest and back; and the flexors, leads to the diagnosis of the seborrhoeic condition rather than the pityriasis. The lesions of the skin may be attributed to chance infection from the groups of organisms affecting the scalp, but unless the soil be favorable, seborrhoeic eczema does not develop. Bacteriologically, all the organisms mentioned in connection with pityriasis steatoides have been found on the lesions of the glabrous skin called seborrhoeic dermatitis. In this condition, as with practically all the others considered, the general condition of the patient cannot and must not be overlooked in consideration of the treatment of his affection. A trip to the country for city people, relief from tight or ill fitting hat gear, diet, exercise, all have their place in the therapy. A review of the chemical constituents of the blood or urine may reveal a fault of the organism, the correction of which

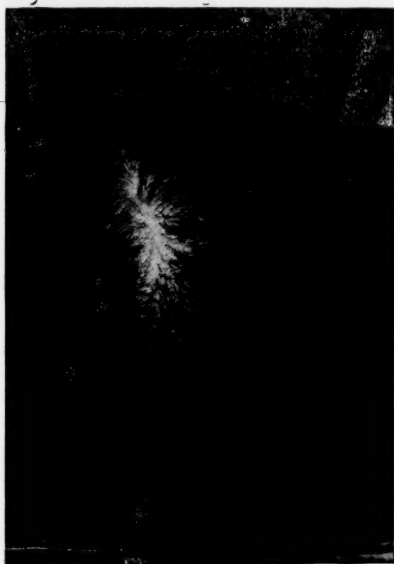


FIG. 2. Same condition as Fig. 1 but in another patient. Illustrates similarity of mild cases.

gives relief. Seborrhoeic eczema certainly and surely leads to loss of hair. Ordinarily much worse in men, and usually, in the early years of adult activity, seborrhoeic eczema untreated, or even treated, causes the loss of hair typified by the extraordinary high forehead and the fringe over the ears. Incidentally, when the hairs have all gone, the seborrhoea goes with them, as far as the scalp is concerned. Baby or lanugo hairs may take the place of the adult or true hairs which have fallen, but this should not be taken as a good sign prognosticating the

return of adult hairs. Rather, the reverse should be feared. According to living habits, occupation, etc., the condition of the skin associated with eczema seborrhoicum of the scalp may be evanescent or persistent; easily eradicated, or resistant to therapy.

IMPETIGO CONTAGIOSA

Impetigo of the scalp differs little from impetigo elsewhere if of the streptococcal variety, or the impetigo of Tilbury Fox. The yellow crust over a restricted moist area rich in organisms of short duration is readily diagnosed. In petigo contagiosa may occur on an otherwise healthy scalp, more frequently, on the irritated scalp with hairs infested with pediculi and their ova; or on the soil of a scratched scalp of one of the itchy conditions already enumerated.

STAPHYLOCOCCIC IMPETIGO

Another type of impetigo is that designated as Bockhardt's impetigo, or staphylococcal impetigo. According to most authorities, the

Tilbury Fox's variety, one often sees the unruptured pustule. Other hairy regions as the beard, the thighs, the axillae, etc., are subject to Bockhardt's impetigo. Further infections as furuncle, abscess, etc., follow the Bockhardt impetigo. The healed lesions of the impetigo of Bockhardt, as well as the sequelae, leave scarred areas free of hair.

I will name and group a number of conditions leading to loss of hair in affected patches.

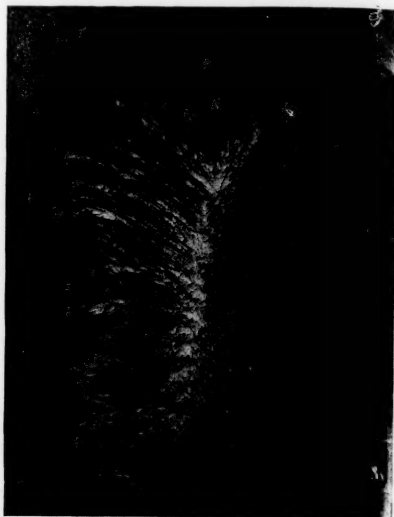


FIG. 2. Seborrheic disease of the scalp in more advanced degree than either of above. The follicles are not yet atrophied beyond hair-growing power.



FIG. 4. Seborrheic disease of the scalp without marked loss of hair. In our experience, high blood sugar is a concomitant of this affection.

pustule of this affection is not preceded by a papule or vesicle, but is a "pustule d'emblee." The hairs pierce the pustule; the organisms as the name implies are of the staphylococcal rather than the streptococcal variety; and the pustule is rounded, raised, and less than pea size. Crusts do not form with the readiness that they do in streptococcal impetigo, and contrary to

These diseases are Lupus erythematosus, Folliculitis decalvans, Alopecia cicatricata, and Pseudopelade. What relation exists between the last three can not be clearly given, providing any exists.

IDIOPATHIC ALOPECIA PREMATURA

There still remains a large class of hair loss attended by no known disease of the scalp. Idiopathic alopecia prematura occurs more in young men than in young women. Idiopathic means without any preceding cause, and this group of diseases is always shrinking, as new causes for diseases are discovered. Idiopathic premature alopecia is so only so long as its cause is not determined. Heredity may play a factor, but this should not be stressed. City life, indoor existence, artificial illumination, stagnant, superheated, dusty air in the office, the subway, the home, and ill fitting hats probably all take their toll in the loss of hair early in life, when for purposes of dignity, beauty,

and self gratification, its presence on the head, and not in a box, is desired. What the future will disclose as to the endocrinologic make-up of individuals suffering with idiopathic premature alopecia is difficult to foretell, but that some discrepancy will be found is not to be doubted. Dysfunction of the adrenals will

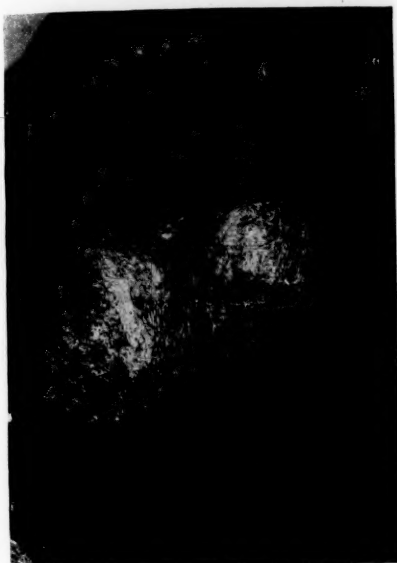


FIG. 7. Folliculitis decalvans; disease primarily of the hair follicle followed by scarring and loss of hair.

come in for its part in this type of loss of hair. Insidious at its incipency, the loss of hair gradually makes inroads upward from the forehead, and frontad from the vertex until the two areas of baldness meet leaving a fringe of apparently normal, healthy hair at the periphery. White baby or lanugo hairs appear on the near bald areas, and these hairs may denote the possibility of a return of pigmented adult hairs, or sad to relate, they may be the last attempt in a forlorn cause. The treatment of idiopathic hair loss in young individuals has taxed the ingenuity of every physician, and has led to no one satisfactory mode of treatment. The charlatans, the so-called patent medicine manufacturers, the barber hair tonic experts have grown increasingly rich on the gullibility of the sufferers who would rather be deluded by the promises of those who have nothing to lose through extravagant claims, than take less in glowing pictures of flowing locks, and more in systematic attention to the general health, and the local problem of the individual scalp.

SYMPTOMATIC ALOPECIA

Another type of alopecia is symptomatic alopecia prematura, and in this connection it is my idea that general diseases of the body economy, rather than conditions of the underlying scalp, are to be considered, as causative. Of course, loss of hair is a symptom of local diseases of the scalp, as we have enumerated earlier, but we group here loss of hair after such diseases as are accompanied by fever; influenza, typhoid, pneumonia; changes in the body states, as pregnancy; and infections accompanied by eruptions of the scalp, as syphilis and erysipelas. Sometime about ninety days after the height of a fever, or after the acme of some generalised disease, the patient has a capillary defluvium. There is probably a diminution of the general nutrition of the skin, and a depression

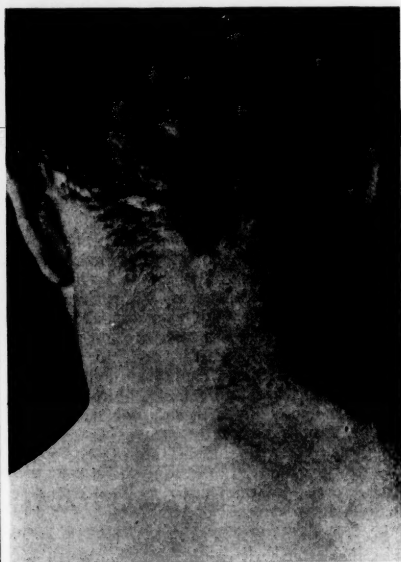


FIG. 10. Patchy loss of hair in general systemic disease, namely, syphilis.

of the activity of the hair root. The whole scalp, for example, may be affected, and the loss of hair may be a very rapid one, so that within a week or two the loss is quite noticeable, but although the hair is very sparse, there are no areas of complete baldness. Just prior to the loss of the hair, it presents an altered appearance, lacking gloss and vitality, so that a comb being passed through the hair with little tension brings many hairs with it. Even the slight agitation of washing the hair causes them to fall out with ease. Other regions than the

scalp may share in this general defluvium of symptomatic alopecia prematura. The treatment of this type of alopecia depends mainly on the treatment of the general condition which induced it. All writers give, and most prac-

ripe old age, and far from senile, either mentally, physiologically, or as to the status of the hair that belongs on their scalp. And so we have reached: "Last scene of all, that ends this strange eventful history, is second childishness



FIG. 11. Diffuse loss of hair in general systemic disease, namely, syphilis.

tioners find the symptomatic alopecia prematura easiest to improve if not to cure.

SENILE ALOPECIA

After the period of greatest physical activity is passed, the hair of both men and women, but rather more in the men, becomes thinned, and perhaps the greater area of the scalp loses most if not all the hair that adorned it earlier in life. Senile alopecia may be classed amongst the physiological attendants of age. How old, chronologically, one must be to enter the category of senile alopecia cannot be definitely set. Many persons are senile long before their numerical age warrants such an appellation, while, on the other hand, many persons are of good



FIG. 12. Patchy loss of hair with scarring in congenital systemic disease, namely, syphilis.

and mere oblivion, sans teeth, sans eyes, sans taste, sans everything."

ACKNOWLEDGMENT

The illustrations used in this paper are from the collections of the New York Skin and Cancer Hospital; Dr. Charles M. Williams, Dr. Herman Goodman, and Drs. Paronagian and Goodman.

ORTHODONTIA AND MALNUTRITION†

BY WM. R. P. EMERSON, M. D.

IN the letter written to invite me to address this association appears the following sentence which furnishes an excellent basis for anything I may have to say: "We know that a very small percentage of mal-developments around the mouth are due to local causes, and that in the main they result from general systemic conditions, of which the mouth is only a part." This idea is further elaborated in a most valuable paper presented by Dr. Grieves* before the 1922 meeting of the American Child Hygiene

Association, in which he states, "Simultaneous deposits of enamel and dentin are laid down at various intervals and levels so that it should be possible, in a dental microscopic section, to interpret the quantitative and qualitative record of the inorganic dental elements and the type of function of the formative cells." If the teeth are defective the character of the lesion and the period of its occurrence can be approximately determined. "In the study of thousands of microscopic sections of the finest looking permanent teeth, histologists state that it is rare indeed to find enamel free from defective rods, or dentin without interglobular spaces."

If the teeth reproduce an epitome of the health history of the child then the extent to which physical unfitness exists is a matter of

†An address delivered November 7, 1923, before the New York Society of Orthodontists, and given in substantially the same form before the Portland, Maine, Association of Dentists on Tuesday, December 2, 1924.

*Clarence J. Grieves, A.M., D.D.S.: "The Relation of Nutrition to Teeth." American Child Hygiene Association, 1922, pp. 225-232.

no little consequence to the members of the profession who treat dental defects. In our work on nutrition we find that fully a third of the children of pre-school and school ages in this country are undernourished, malnourished, and physically unfit. These results have been strikingly confirmed by the conditions revealed by the examinations conducted in the army in connection with the draft.

When the extent of this subnormal condition of health is considered in the light of the quotations just given the question to be raised is not "Why do the teeth of children decay?" but rather "Why should they not decay?"

It may be of interest at this point to present the causes which most commonly lie back of this state of malnutrition. Like other theorists, when I first made a serious attack upon this problem in 1908 I supposed that malnutrition was due primarily to insufficient and improper food, for which inadequate incomes were mainly responsible. Elsewhere there is a record of the investigations which led me to see that this theory was not supported by the evidence available when one works with the children themselves in the clinic and the class. At this time it will be sufficient to name these causes in the order of their importance: (1) Physical defects, especially naso-pharyngeal obstructions, (2) Lack of home control, (3) Over-fatigue, (4) Faulty food habits with insufficient and improper food, (5) Faulty health habits.

At present there is very little opportunity to correct even the first of these causes. Few children receive any physical examination. The so-called medical inspection given in the schools, like other wholesale or blanket methods, does little to help and often does actual harm by causing teachers and parents to be blind to positive defects, supposing that something has been accomplished by means which, in their very nature, are necessarily largely futile. Even where conditions are more favorable many defects are overlooked. Thus in one of our largest and best organized children's clinics we found that as a result of the general examination given fifty children taken as they came there was a record of only 44% of the defects revealed by the physical growth examination given the same children in the nutrition clinic. A further comparison with the diagnosis summary, the actual working basis for remedying defects, showed that only 21% of the total number of defects were here recorded. In the naso-pharyngeal group only 9% had been placed on the register. The best showing was made in the records of teeth where 47% of all dental defects had been detected and registered.

Every child should be given a complete physical-growth examination at least once a year in the presence of one or both of his parents. A special effort should be made to reach every child on his entrance to school and all defects found should be attended to so that from the

beginning he may be physically fit and ready to make the most of school and other opportunities. In the case of malnourished children we use the phrase "free to gain" to characterize the condition of a child whose physical defects have been removed.

In addition to this physical-growth examination we have found it important to make use of two other tests—the social examination and the mental examination. While my approach to this problem has been from the physical side I soon found that there are many social and mental aspects which are of fundamental significance. When the mental hygiene program had been formulated I discovered that its material covered much of the same ground as that with which we were concerned in correcting the second and third causes of malnutrition—lack of home control and over-fatigue. The first step in the examination, to which reference has just been made, is to secure a complete record of a child's activities and feeding for a period of 48 consecutive hours. We also take account of the family history and at this time and during the period he is under care we keep closely in touch with his various interests, activities and occupations.

After the diagnosis has been made we find that our most effective tool is the class or group method which has been stated by Holt to be epochal in the treatment of children. The weight chart is the central factor by means of which the child's interest is held and his reaction measured. Furthermore it makes the instruction visual and brings home to child and mother—for the presence of mothers at the weekly class meetings is required—the goal which he must seek and the immediate means of attaining it.

One of our greatest difficulties in this work is the tendency of those who are concerned with it to seize upon some single detail or aspect of the program—excellent in itself—and expect to get results by devotion to it. The most common limitation appears in the frequent confusion of feeding with nutrition. One might as well expect to discuss the processes of making a home comfortable in terms of fuel only as to limit nutrition to food.

After much experimentation we have found that there are four forces which must be brought into action in order to insure success. These are the home; the school, and other social agencies; medical care; and the child's own interest. Often great energy will be spent on one or more of these agencies when a little effort to bring the four into coöperation would accomplish the end desired much more rapidly and economically.

It was in this way that the nutrition program came into existence. It centers, as I have said, in the nutrition or diagnostic clinic, the nutrition class and the weight chart as the register of the most significant single line of evidence of changes in physical fitness. By means of this

device we can follow not only the effects of variation in food but also changes in food habits; the over-fatigue of undue physical requirements, over-exercise, school examinations, failure to make promotion; unfortunate conditions of home control; the effects of toxic conditions and their removal as well as many other less frequent but potent factors in accomplishing or retarding proper growth and development.

This brings us to the important question of weighing and measuring children. I hope I have made clear the stress I lay upon complete physical-growth examinations but as a step in the direction of bringing them about much can be accomplished by determining the percentage a child's actual weight is of the minimum weight found by clinical methods to be necessary to sustain his height. The introduction of the age factor at this stage I have found to be confusing and unnecessary. Age is of consequence, but in this connection it is decidedly secondary. There is what may be called a zone of weight safety lying between the upper boundary of 20% overweight for height and the average weight line. I have never yet found a child who is habitually seven or more per cent. underweight for his height who does not show other unmistakable signs of malnutrition. This test does not identify all who are in need of care but it does show us about 90% of those requiring urgent attention.

The "average" weight which is used as a basis for determining this condition should not be confused with the "optimum" weight for height, which runs in general about 10% above the average. This is to be expected inasmuch as the tables which we use are made up from the weights and heights of all children who are well enough to be present at the time of weighing and measuring.* This inclusion of the abnormal conditioned third vitiates the average which when it is made from well children will be found to coincide very largely with what I have referred to as the "optimum." It is usual when children who are in the nutrition classes reach the average weight for their heights to send them out as graduates in order that their places may be taken by others in worse condition who are on the waiting list. When, however, groups have been kept on the program for a longer period it appears that they will go on gaining until they reach a point 5 to 10% above the average, when their weight lines tend to become parallel with the gain that is ordinarily expected of children of their stage of growth.

I have used the term "well" children advisedly for one of our greatest needs is to recognize the fact that these children who are habitually seven per cent. or more underweight

for height are sick and in need of care. The program we are requiring for them you will recognize as largely a continuation of the excellent schedule that has been worked out for infants. Alarm over infant mortality brought it about that for the first time in history a period of life is now cared for on the basis of the latest investigations of scientific research with results that are most gratifying in their promise of what will be accomplished when the entire growing period is equally well cared for.

The immediate results of the use of the nutrition program can be found in a score of cities. In Rochester 1500 children are at all times in nutrition classes in the public schools alone—new members are brought in as fast as older cases "graduate." These children made an average gain of 299% of what is usually expected of children of their ages. There are a number of orphan asylums in which malnutrition has been practically eliminated by means of the nutrition program. The latest development of the work has been in the form of most successful classes for physical fitness conducted at Dartmouth College and the Massachusetts Institute of Technology.

When the relation between malnutrition and physical defects was studied it was naturally supposed that in the case of carious teeth as of diseased adenoids and tonsils there would be a positive correlation. This has not proved to be the case. In one investigation involving 602 children it was found that those who had carious teeth showed 7 to 22% greater incidence of postural defects and 4 to 16% more obstructions to breathing than those who were free from teeth defects, but no such apparent relation to underweight was indicated. Even when the comparison was made between the children having many and those having few defects of each kind, the proportion of underweight increased with the number of naso-pharyngeal defects but not with defects of teeth.

In another study 88 children were divided into four nearly equal groups—the first having no carious teeth; the second, one each; the third, two and three each; and the fourth, four to twelve. The percentages of malnutrition ran, 10, 9, 10, and 10 respectively, showing no signs of correlation. However, in studies involving overweight children who may be said to be in a state of super-assimilation, it is found that they are remarkably free from carious teeth and other physical defects.

This, of course, is a very different matter from the evident effects of abscesses, malocclusion and other more serious dental diseases.

The teeth are, like other tissues of the body, dependent for their proper development and growth on normal nerve and blood supply and healthy adjacent tissues. Causes that interfere with good nutrition and growth of the body, such as toxins generated by diseases, by deficient

*This aspect of the subject is more fully discussed in "The New Weight-Height Tables and Malnutrition," by Wm. R. P. Emerson, M.D., and Frank A. Manny, in Archives of Pediatrics, October, 1924.

oxidation, by over-fatigue, by indigestion, etc., which produce general malnutrition, affect the teeth also. Their effects are registered by defects of the teeth in a similar manner to physical defects elsewhere.

Because of our varied social environment, food and health habits, an adequate single cause is no more to be expected for carious teeth and other abnormal dental conditions than would be expected for various forms of malnutrition found elsewhere in the body. The problem of sound teeth, then, is the problem of a sound body.

When we consider the problem of malnutrition especially from the standpoint of the dental profession it is evident that the orthodontist has a part to play not unlike that of the specialist in naso-pharyngeal obstructions. Following our general physical-growth examination there are always as many as sixty per cent. of suspect cases who need to be examined to determine their need with reference to operations for diseased adenoids and tonsils. The growing science of orthodontia has great possibilities because deformities of oral structures have so close a relation to abnormal conditions in other parts of the body.

From quite another point of view the dentist is an important factor in connection with our nutrition program. We used to suppose that it was necessary when a child underwent a throat operation that he must be expected to lose weight. This we have found can be obviated with little difficulty by providing for a longer stay at the hospital. We made an advance when an overnight stay was required, but the best results are now obtained by keeping the patient in the bed for at least five days. One of the great causes for loss of weight while children are under care for malnutrition comes from the effect of the strain put upon them when they are undergoing dental treatment. Even a weekly visit to the dentist is sufficient to cause failure to gain. It should be remembered when treating the mouth that another heavy burden is added to their already overburdened lives and the orthodontist should know the details of the program which will reduce this loss to a minimum and make for the best results to the child as regards his general health as well as the correction of malocclusion in teeth. Here, again the weight chart is the best guide and the child should be looked after from the standpoint of lunches and rest periods and other means of keeping him fit for the work required in his mouth. Many times the failure of a child to benefit by orthodontic treatment is due to failure to keep him in condition to respond to what is being done for him. There is need of the greatest care in working with the mouth. It is the alimentary tract at its source and the nervous reaction at times is all out of proportion to the immediate cause in treatment.

When a child is brought to a dentist for care

it should be a matter of routine to determine whether or not he is underweight for his height. It also should be made clear whether or not he is in a toxic condition. We find in much of the orthodontic work that the getting of proper results is greatly affected by the extent to which the cause of toxicity has been removed. It is important to become expert in detecting the more evident signs of a normal mouth condition. Thus, mouth breathing is frequently overlooked when thorough careful observation of this defect as shown, for instance, by dryness of the lips, a significant factor in diagnosis, it may be determined.

A long step in the proper association of dentistry with other aspects of medicine will be taken when a program somewhat along the following lines is carried out by the dentist and orthodontist before actual corrective work is begun: Weighing and measuring by use of scales and wall chart in order to determine whether or not the child is underweight for his height. If he is found to have this most common evidence of malnutrition he should be carefully observed with reference to pallor, lines under the eyes, mouth breathing, round shoulder, projecting shoulder blades, fatigue posture, "nervousness." Such signs as these furnish additional evidence of malnutrition. While naturally the correction of this condition is a matter for care by the family physician it should be considered entirely within the province of the dentist in coming to an understanding of the case upon which he is working, to secure a list of food and health habits and to know whether such a dietary is followed as will insure the proper growth conditions for the particular work he is called upon to perform.

We see long lines of children having their teeth repaired only to go out from the dentist's office suffering from the same causes which will soon bring them back again for further repairs which would be greatly reduced in amount if the cause of the abnormal condition were found and removed. Favorable personal contacts with children are being constantly wasted which might be utilized to prevent not only decay of the teeth but also malnutrition and physical unfitness of the body as well.

The dental profession is coming into its own by the recognition of its possibilities as a department of medicine, working no longer independently on mere "repair work" with much waste of time and energy, but linked up as an integral and important unit in meeting the problem of establishing higher standards and securing more adequate results in child health.

HORACE WELLS*

BY ERNEST A. WELLS, M. D.

It is fitting, at this time and in this place, to recall the part our distinguished fellow citizen, Horace Wells, played in the discovery of anaesthesia.

Near the center of this city, in beautiful Bushnell Park, over by the pond, you will find a monument and bust with the inscription, "Horace Wells, Who Discovered Anaesthesia, November 1844."

On our Main Street, just south of Asylum and opposite the Old City Hall, is a bronze tablet with the words, "Upon this spot, December 11, 1844, Horace Wells submitted to a surgical operation, discovered, demonstrated and proclaimed the blessing of Anaesthesia."

In the Wadsworth Atheneum is a silver wreath sent to the city of Hartford in 1894 by the Spanish Odontological Society, "In Memory of Horace Wells who discovered Anaesthesia."

Just within the doors of our Medical Society's Building, over the mantel piece you will find the seal of the society cut in stone and the central figure of this seal is a profile of Horace Wells. This same seal appears on all our stationery.

What is the basis in actual fact for all this? Who was Horace Wells and what is this anaesthesia that he discovered? There have been few events in our world's history of greater moment to the immediate comfort of mankind and none in the field of medicine its equal. Only the fundamental discoveries on which our civilization is based outweigh that of anaesthesia in their contribution toward the amelioration of human suffering.

Horace Wells was born in Hartford, Vermont, in 1815. His parents were in circumstances comfortable for those days and gave him a fairly good education. At the age of nineteen he went to Boston to study dentistry, and soon after completing his studies, came to this city and opened an office in a building which stood where the tablet above referred to now marks the place. A young man named William Morton had settled as a dentist in the town of Farmington, a few miles west of this city. It is said by Dr. Riggs of this city that "he (Morton) had little knowledge of his profession, was illiterate, and generally an ignorant man. He was a pupil of Dr. Wells in the years of 1841 and 1842, and was in the habit of coming to Hartford to recite to Dr. Wells and to obtain his assistance in getting up work. Some time before Dr. Wells made his discovery, he (Dr. Wells) entered into co-partnership with Dr. Morton to open an office in Boston, and went there for that purpose and stayed there for several weeks. On his return he told me he should dissolve the partnership

as he found that Dr. Morton was not qualified for the profession, and it was dissolved accordingly." At any rate the partnership did not last long and Wells returned to Hartford while Morton remained in Boston.

About this time there was an intense interest throughout the world in the therapeutic effects to be obtained from various drugs by the inhalation method. We read over and over again of the experiments going on in the various medical colleges and of the effects of various inhalations. If one were to judge by the newspapers of the past few weeks one might get the impression that the therapeutic use of gaseous inhalations is some new thing just discovered instead of an old and many times abandoned suggestion.

Ether had been known since the sixteenth century. Nitrous oxide gas was discovered by Priestly in 1776. As early as 1795 Pearson had used the vapor of sulphuric ether for the relief of spasmodic affections of the respiratory tract. In England, Thomas Beddoes had opened a hospital in which special attention was given to the treatment of disease by inhalations. He called it a "Pneumatic Institute." Of course it did not succeed and it is chiefly known in history because of a young man from Penzance in Cornwall whom Beddoes found and engaged as his assistant. This young man was but nineteen years of age, his name was Humphrey Davy and he was destined to become one of the greatest chemists of all time. While still working with Beddoes, Davy had studied the effects of nitrous oxide gas and suggested its use for surgical operations. The suggestion, however, was never acted upon. This was about the year 1800. Davy took as his assistant Michael Faraday and they knew as early as 1818 that sulphuric ether could produce insensibility.

Professor Willard Parker, formerly of the City of New York, states, "In the spring of 1831, during the course of public lectures in The Vermont Medical College (then The Clinical School of Medicine) at Woodstock, Vermont, the students of my class, after having used nitrous oxide prepared for them by the Professor of Chemistry, took up the use of sulphuric ether and they were in the habit of making themselves intoxicated and insensible by its inhalation. I finally checked them in the employment of the ether, fearing deleterious effects. I further say that I then observed that the operation and influence of the above agents, when inhaled, were very similar. It has long been known that nitrous oxide gas, sulphuric ether, chloric ether, and like substances, would produce intoxication and insensibility, but it was not known that these agents could be so employed as to suspend all sensibility during surgical operations." Wells

*Address before the New England Surgical Society during its annual meeting in Hartford, Conn., September 26-27, 1924.

was undoubtedly more or less familiar with the above facts, as was the case with all medical students of the time, but it evidently had occurred to him that he might go further. Dr. Linus P. Brackett of Hartford says: "Some time in the summer of 1840, in the month of July or August, I called at Dr. Wells' office and found him engaged in some experiment, which led to a conversation between Dr. Wells and myself respecting nitrous oxide gas. Dr. Wells first spoke of the gas, and inquired of me if I had seen it administered. I replied that I had seen two or three persons inhale this gas, and described the effects upon them under its influence. We conversed upon this subject for some time, and Dr. Wells remarked that he believed that a man might be made so drunk by this gas or some similar agent, that dental and other operations might be performed upon him without any sensation of pain on the part of the patient. And Dr. Wells added, that if we could make this experiment work, he should be able to extract a tooth for me without so much pain as the last operation caused me. Dr. Wells' mind seemed to me at the time to be impressed with the idea that some discovery would yet be made to prevent pain in dental operations."

Horace Wells was possessed of a restless mind. He was an ingenious man, always looking around for new ideas and new methods, and it is known that he constructed and patented several machines for use in dental work. It is not strange that he and many others were thinking along the same lines at about this time; for the many effects of nitrous oxide and of sulphuric ether were very generally known; much more so than most of you would probably assume.

On December 10, 1844, a certain Dr. Colton came to Hartford, giving popular lectures on science, and one of his lectures was devoted to the so-called laughing gas. Lectures of this sort were common forms of entertainment at the time. Many of the young people, as seems to have been the custom all over the country, went to this lecture and some took the gas, among them Wells. One of the young men, named Cooley, was particularly noisy under the influence of the gas and barked his shins very badly against some of the benches in the auditorium (Union Hall). Wells noted this particularly and after Cooley had recovered from the gas Wells talked with him and asked him if he did not realize that he had hurt his shins. Cooley knew nothing of it, pulled up his trousers, and was surprised to find how badly he had banged himself. Wells remarked to those about him that he believed a person could have teeth drawn under the influence of that gas and not feel the pain.

He talked to Cooley, to Colton and to his wife that evening, also to Dr. Riggs, a friend and dentist here in the city. He arranged with Dr. Colton to come to his office the next day and

determined to make a trial of his idea. On December 11th, 1844, the next day, Wells had a tooth extracted by Dr. Riggs while under the influence of gas given him by Dr. Colton. As he awoke from the gas, he exclaimed, "A new era in tooth pulling. It did not hurt me more than the prick of a pin. It is the greatest discovery ever made." From this time on both he and Dr. Riggs used the gas frequently. A certain Dr. Marcy in Hartford became much interested and suggested to Wells that sulphuric ether would be just as good. Wells and Marcy both tried it out on minor operative cases, conferred with Professor Rogers of Washington (now Trinity) College and after due tests and consideration decided that it caused more nausea, was more troublesome to give, etc., than the gas. Wells felt that the nitrous oxide was better and he continued to use it in preference to ether. It became well known throughout the community that Wells was using gas for this purpose and the literature is filled with an extensive accumulation of affidavits attesting its repeated use both in dentistry and surgery.

Early in 1845 he went to Boston with the idea of bringing his discovery before the noted medical men of the time. Naturally he first went to call on his former pupil and partner, Morton, and explained his discovery to him. He spent about three weeks in Boston and finally through Morton's help obtained a chance to speak to the medical class of Dr. Warren at the Massachusetts General Hospital. He spoke of the exhilarating effect of the gas and how people under strong stimulation do not know that they are being injured. His idea was that the important effect of the gas was its exhilaration. It has always been well known that a person under the stress of intense excitement, as in battle or in the midst of great catastrophes, may be very painfully injured and yet experience no adequate sense of pain until the excitement of the event has passed. It was Wells' idea that this was the way in which nitrous oxide gas brought about its effects. He told Dr. Warren's class of his experiments and his successes and offered to give a demonstration that evening if a subject could be found. A patient was secured and the gas given. We have sworn accounts of several witnesses as to what occurred. Some thought it a complete success but apparently the gas was removed too soon and the patient cried out. Some of the students jeered and Wells was much discouraged. He was a man of very sensitive nature. He was greatly troubled and chagrined by his failure and returned to Hartford the next day.

Morton, however, who knew from Wells every detail of his results, was much interested and quietly determined to go further with the experiments. He went to his friend, Jackson, who was a doctor of medicine, and a good deal of a chemist, and asked him to make him some of the

nitrous oxide gas with which he might experiment. Jackson asked him what he wanted it for and, after Morton had explained, Jackson told him that sulphuric ether was much easier to handle and would produce the same results. Morton, therefore, began experimenting with ether and on September 30, 1846, gave ether to a man named Eben Frost and a tooth was successfully drawn under its influence. Morton continued his experiments, for the most part on patients, and on October 16, 1846, at a pre-arranged clinic at the Massachusetts General Hospital gave ether successfully. This success was broadcasted to the world by the group of distinguished men associated with the Massachusetts General Hospital. Within a short time other successful anaesthesias were administered and Dr. Warren and his associates became assured that the "Letheon," as it was called, was a success.

About this time Dr. Wells went to Paris, then the center of the world of medicine. He was received with much distinction, the Academy of Medicine gave him the honorary degree of M. D. and the Parisian Medical Society elected him an honorary member. This action was taken after due consideration of Morton's claims which were presented by a Mrs. Warren acting as his agent. Wells paid his expenses on this trip by the purchase of pictures which he later sold at a profit in America. His ability to do this gives us perhaps another sidelight on his artistic and sensitive nature. Imagine his surprise and distress then on returning to New York to find Morton the accepted discoverer of anaesthesia, and ether the accepted anaesthetic. Wells had been in poor health for a number of years. His wife says, "he was incessantly engaged in extracting teeth with this agency (gas) and in trying experiments on himself and others for many months after his discovery. He would lie awake nights and often abruptly leave his meals to hasten to his office. At length excitement and other causes in this connection undermined his health and he was obliged to give over his profession for a time. He then resumed it, and continued the use of gas as before. . . . In the winters of 1844 and 1845, and repeatedly thereafter, I made bags of India (rubber) cloth for my husband, to be used in administering this gas for dental surgery."

The quarreling and dissension over who was the discoverer of anaesthesia that ensued after Wells' return to America is known to everyone. Wells became terribly worked up about it and later probably became mentally unbalanced. On January 24, 1848, he killed himself while temporarily insane and confined in a prison in New York City.

Morton also had a dismal end. As soon as the staff of the Massachusetts General Hospital were satisfied that "Letheon" was a success, they refused to do any more operations until

they knew the nature of the gas. This Morton acknowledged was ether which, however, he had attempted to disguise by adding aromatic oils. He and Jackson had secured patents both in the United States and in England giving them jointly the sole rights but, as Jackson was ashamed to have anyone know that he had anything to do with the patents, Morton had agreed to give Jackson ten percent of all he should make on it. Morton then attempted to sell off his rights, charging fifty percent of all receipts from doctors who might use the new agent. He went even further and tried to induce the heirs of Horace Wells to give up all their claims, agreeing to split with them, in such case, such money as Congress might award to him. He went to Washington and conducted a notorious lobby in his own behalf in connection with which many unpleasant stories are told, but which do not need repetition here. He also died rather suddenly in New York, under peculiar circumstances, apparently of an acute heat stroke or an acute mania initiated by the heat. Strange as it may seem Jackson also died insane.

As we now know the first successful etherization of a patient for a surgical operation was done by none of these men but by Dr. Crawford W. Long of Jefferson, Jackson County, Georgia. He etherized J. M. Venable on March 30, 1842, and removed a tumor of the neck. He removed another tumor from the same man on June 6th of the same year and subsequently did a few other minor surgical operations under ether. Unfortunately, he did not make known his discovery till long after. He received his first ideas in much the same manner as the other men, from the "ether frolics" common to the time and particularly from a story related to him of a negro boy that other boys, for a joke, had etherized in 1839. This boy had remained under the effects of ether for over an hour, greatly to the alarm of the perpetrators of this historic joke.

One word perhaps should be added in respect to the subsequent history of nitrous oxide. For many years ether and chloroform completely supplanted the use of gas. Dr. Colton, whose lecture in Hartford had initiated Dr. Wells' discovery, went to California in '49 and made a fortune. After a varied career he subsequently lost this and returned to his former life as an itinerant lecturer on natural philosophy including the effects of nitrous oxide. In 1863, he gave his lectures in New Haven, Connecticut. Dr. J. H. Smith, a dentist of New Haven, became interested and after the meeting asked Colton to try the gas in his office. It worked so well that an arrangement was made for Colton to remain and in the next twenty-three days it is recorded that they extracted over 3,000 teeth. Colton then went to New York and instituted the Colton Dental Association for the extraction of teeth. This was a great success and obtained world-wide fame and established the use of ni-

trous oxide in dentistry throughout the world. In recent years, as you all know, this gas has found a large place also in general surgery.

Such is the story of Horace Wells, a story unsatisfactory in many ways but certainly so linked with the medical history of Hartford as to be appropriate on this occasion.

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BOOK REVIEWS

Pediatrics for Nurses. By JOHN C. BALDWIN, M.D., Lecturer in Pediatrics, Johns Hopkins Hospital School for Nurses; Pediatrician in Charge, Florence Crittenton Mission Nursery; Pediatrician, Babies' Milk Fund Association. D. Appleton & Co., New York and London. 1924.

Dr. Baldwin has in this text-book considered all the phases of the care of infants and children that might apply to the nurse engaged in such work, or, indeed, to the mother caring for her children. Important points in health and disease are practically dealt with, with sufficient explanation of theory so that the reader may understand the principles on which her duties are based. No information of value has been omitted and yet there seems to be no superfluous matter. A steadily increasing number of books on the care of children during the last few years

speaks for an awakening interest in child hygiene. Pediatrics is naturally a branch of medicine that readily falls in line with the modern concept of prevention as the most important function of the physician, and this accumulating literature shows plainly that the pediatricians know where their duty lies. Most of these books have been of value; a few have been open to criticism. Dr. Baldwin's deserves a place in the foremost group and may be recommended.

Guy Patin and the Medical Profession in Paris in the Seventeenth Century. By FRANCIS R. PACKARD, Hoeber, N. Y., 1925.

The letters of Guy Patin, which form the basis of Dr. Packard's "Life," are of extraordinary interest to the medical historian. Patin, living in Paris, and rarely travelling outside the city, sought to inform his friends in other parts of France about medical and political seventeenth century Paris. He succeeded admirably, and the author of this volume has successfully culled from Patin's large correspondence the major points of interest and added thereto the few facts known regarding Patin's life. On the whole, the book is readable and entertaining. One is not struck by Patin's greatness, although he must have been a likable, if somewhat curious, character.

Patin's life centered about the Faculté de Médecine and most of his letters are comments about its discussions. We learn how both meagre and absurd was medical education three hundred years ago; erudition in Latin and Greek authors, no clinical instruction, rare public dissections, and these written to please the examiners. In spite of such training Patin became the leading practitioner of Paris and Dean of the Faculté. Patin was an avowed bibliomaniac, avoiding being "persecuted by too much practice" because of his skill. He bought a book a day. His library contained over 10,000 volumes, including 1,600 folios, many being books of general interest, the publication of which he had stimulated. His friendship with Naudé, librarian of Cardinal Mazarin, has been fully described by Courtney (*Annals of Medical History*, 1922-3-4). Patin was not a reactionary, but upheld old Greek medicine against the quacks, pseudo-Greeks, the Arabian school, and the chemists of the Basil Valentine and Paracelsus type. He failed to see the extraordinary significance of Harvey's "De motu cordis" (1628), although he knew of its publication.

This volume, published by Hoeber, of New York, is an excellent example of the high standard set by this publishing house. Some of the chapters have previously appeared in the *Annals of Medical History*, of which Dr. Packard is the editor.

Diseases of the Male Organs of Generation. By KENNETH M. WALKER, F.R.C.S., M.A., M.B., B.C. Published by Henry Frowde and Hodder & Stoughton, London. 234 pages.

It is not often that one comes across a treatise on a medical subject which is as satisfactory as this book of Kenneth Walker's. Dealing with a limited subject—the male generative organs—the author has resisted the temptation to which so many succumb to write a complete encyclopedia of other men's views on all possible phases of the subject. Instead, he has given us an adequate discussion, well balanced, and written out of the fullness of his personal experience. The incorporation of his own beliefs on certain matters adds to the reader's interest. Venereal infections are not included, so that one does not have to read once more the time-worn paragraphs about "anterior and posterior urethritis."

In a few instances the English opinion in regard to certain operations, such as prostatectomy, differs from that which is held by American genito-urinary surgeons. Apparently the perineal route is not much in vogue. In most respects the therapy of genital pathology as outlined by Walker strikes a responsive

chord. His attitude is very sound and reflects a thorough knowledge, not only of urology itself but of its wider contacts. It would be difficult to pick out any particular chapters for commendation. All are worth reading.

A Text-Book of Biology for Students in General, Medical and Technical Courses. By WILLIAM MARTIN SMALLWOOD, Ph.D. Fifth Edition. Thoroughly Revised. Published by Lea & Febiger, Philadelphia and New York. 393 pages, 252 illustrations. Price, \$3.75.

A text-book that departs from the stereotyped plan and that leads one, by means of its carefully thought out arrangement and interesting style, to lay it down with reluctance, is worthy of mention. Such a book is "A Text-Book of Biology," written by Dr. Smallwood, Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University. The author begins with a section of 109 pages on the frog, its organs, digestion, circulation, metabolism, anatomy and embryology. The second section deals with the fundamental principles of biology as illustrated by unicellular organisms. Part III illustrates biological principles by means of plant and animal types; Part IV presents the philosophy of biology—evolution, genetics, adaptation. Although not long enough to be tedious, the book is adequate in its details. In later editions, we hope the author will amend his description of renal secretion as stated on page 59, particularly as regards the function of the cells of the convoluted tubules. Aside from this one criticism, the reviewer's attitude toward the book is one of whole-hearted approval.

Concealed Tuberculosis, or "The Tired Sickness." By GEORGE DOUGLAS HEAD, B.S., M.D. Philadelphia: P. Blakiston's Son & Co. 1924.

The title of this book, "Concealed Tuberculosis, or 'The Tired Sickness,'" is a most fascinating one. The author states that it is a clinical study upon the exhaustion type of hidden tuberculous lesions. That there are many such concealed lesions which are causing symptoms of chronic fatigue which he describes, no one can doubt. Early in his book, however, he makes the statement that "post-mortem and clinical experience has proven the reliability and specificity of a positive subcutaneous tuberculin test as proof of the existence of active tuberculous infections." This is indeed a remarkable statement and one at complete variance with the opinion of the best students on the subject of tuberculosis. It is hard to conceive how such a statement as this could have been put into this book.

He divides symptoms into various groups:

1. Chest pain group.
2. Nervous exhaustion group.
3. Cold and cough group.
4. Abdominal distress group.

I would not agree that either chest pain or colds and coughs should be classed under symptoms due to a concealed lesion. In physical examination as symptoms of concealed tuberculosis(?) he includes persisting fine râles at one or both apices, but further on states that physical signs of past or present lung involvement are usually lacking. He likewise states that a striking point in blood examination is the increase in the mononuclears. Most of us would not agree with this as of any importance in the diagnosis of tuberculosis. He emphasizes the value of a positive Von Pirquet cutaneous test, which is again a point that few of us would conceive.

As a differential diagnosis he considers myocarditis, which should be ruled out. Myocarditis at the present time is such a vague term as to have little or no importance. In the diagnosis of hyperthyroidism he makes no mention of the use of basal metabolism as the best means of differentiating this condi-

tion. Under treatment for the ambulatory case he advises six meals a day and egg-nogs, and states that the patient should gain from one to two pounds a week. In the great majority of cases the six-meal-a-day regime, particularly with egg-nogs, has become a thing of the past. His advice, particularly that in regard to constipation, in which milk of magnesia and Plaster water are the only medicines mentioned, is of doubtful value. He advises patients to keep a caloric chart, which likewise I believe will do more harm than good. His emphasis on lunches and the use of egg-nogs is particularly galling to those of us who have welcomed the doing away of eating between meals in the treatment of tuberculosis of all kinds.

The latter part of the volume is devoted to 30 illustrated cases. In discussing the 30 cases the words "thorough," "searching," "complete" and "painstaking" are used 25 times, but in seven instances in which the examination was *thorough* or *searching*, etc., there was no X-ray made. On the other hand, in various cases in which he stated that the physical examination was negative, *persistent râles* were found or else the patient was found to be running a fever of 99-100 or the X-ray showed an old process in the lungs or density at one or both apices, while in one instance, after a "thorough physical examination" which was declared to be negative, there was "impaired percussion note, prolonged expiration and fine crackling râles at the right apex." As to why this should be called a concealed tuberculosis I have no idea.

As I said in the beginning, the title of this book is fascinating in the extreme. I regret that the subject matter does not come up in quality to that title.

Anatomy of the Human Body. By HENRY GRAY, F.R.S. Twenty-first Edition, Thoroughly Revised and Reedited. By WARREN H. LEWIS, B.S., M.D. Philadelphia and New York: Lea & Febiger. 1924.

The appearance of this twenty-first edition of Gray's Anatomy, again edited by Lewis, marks another milestone in the history of a famous English text-book. Each section has been brought to date by incorporating new knowledge which has appeared since the previous edition. The section on the architecture of the heart musculature has been enlarged and new material added to the sections on embryology and the ductless glands. Many new illustrations have been added and some old ones replaced by more effective figures, making now a total of 1283 engravings, many of them in color. The use of the B. N. A. terminology in English has been retained practically unchanged, and important references to the literature have been added at the end of each section. This latest edition worthily perpetuates the work of the distinguished author and of subsequent successive editors.

Developmental Anatomy. By LESLIE BRAINERD AREY, Professor of Anatomy at the Northwestern University Medical School. Philadelphia and London: W. B. Saunders Company. 1924.

This text-book and laboratory manual of embryology is designed for students and others whose interests center primarily on man and other mammals. It emphasizes the structural rather than the functional aspects of embryology. The first section deals with general development, treating the early stages comparatively and outlining the full course of prenatal and postnatal evolution. The second deals with organogenesis, tracing the origin and differentiation of the human organ-systems, grouped according to their germ-layer derivations, endodermal, mesodermal, and ectodermal. The third presents a systematic laboratory study of the chick and pig embryo. The work is well illustrated with 419 figures, of which a number are in color. The book is an admirable contribution to the didactic literature of the subject.

Case Records of the Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 11061

MEDICAL DEPARTMENT

A French-Canadian housewife of forty-four entered November 19 for relief of gradual loss of voice and vision during two years. The history was given by her daughter.

F. H. Good. She had two miscarriages before the birth of her thirteenth child. Four children died in infancy.

P. H. She had always been strong and well, though of nervous temperament. She had had no diseases except probable measles in childhood.

Her personality was very difficult to estimate, as she could not talk. Her daughter said that her mother was nervous, apprehensive and fretful.

P. I. Two years before admission the patient had an acute attack of very severe cramp-like pain in the right lower back and side followed by a throbbing pain which persisted for some time. This pain had returned at intervals. Since the first attack she had had gradual loss of voice, now complete, failing vision, and a loss of thirty pounds in weight. Her appetite and digestion had been good. For several indefinite periods her skin and eyes were yellow. All through the present illness she had had attacks of tachycardia, worse recently. For the past year she had tired easily and had dyspnea on exertion. Since the onset her catamenia had been irregular and for five months absent. She had been jaundiced several times. She had had slight diplopia several times, had been dizzy quite often, and had had blurring of vision, never severe.

Records of the Out-Patient Department November 19. Additional history. She was treated in a hospital for typhoid a year before admission and while in the hospital began to lose her mind. She lost her voice completely last month. Her thyroid had been enlarged since she was nineteen. She had been "nervous" many years. P. E. Pupils reacted to light. Right eye divergent. Excessive salivation. Tongue furrowed and coated. Tonsils large and slightly injected. Several decayed teeth. P. 140. Gait slow and somewhat unsteady. Arms kept by sides.

P. E. A well nourished woman with a mask-like expression and questionable slight left facial paralysis. Apparently not very clear mentally. Considerable pyorrhea. Upper teeth false. Bilateral hypertrophy of the tonsils. In center of neck a round freely movable mass 4 cm. in diameter, apparently not attached to the thyroid. Thyroid showed definite general bilateral enlargement. Slight left dorsolumbar scoliosis. Apex impulse of the heart $9\frac{1}{2}$ cm. from midsternum. Percussion measurements as shown in the diagram. Sounds and action, pulses and arteries normal. B. P. 120/80. Lungs apparently clear, though thorough examination was impossible because of lack of co-

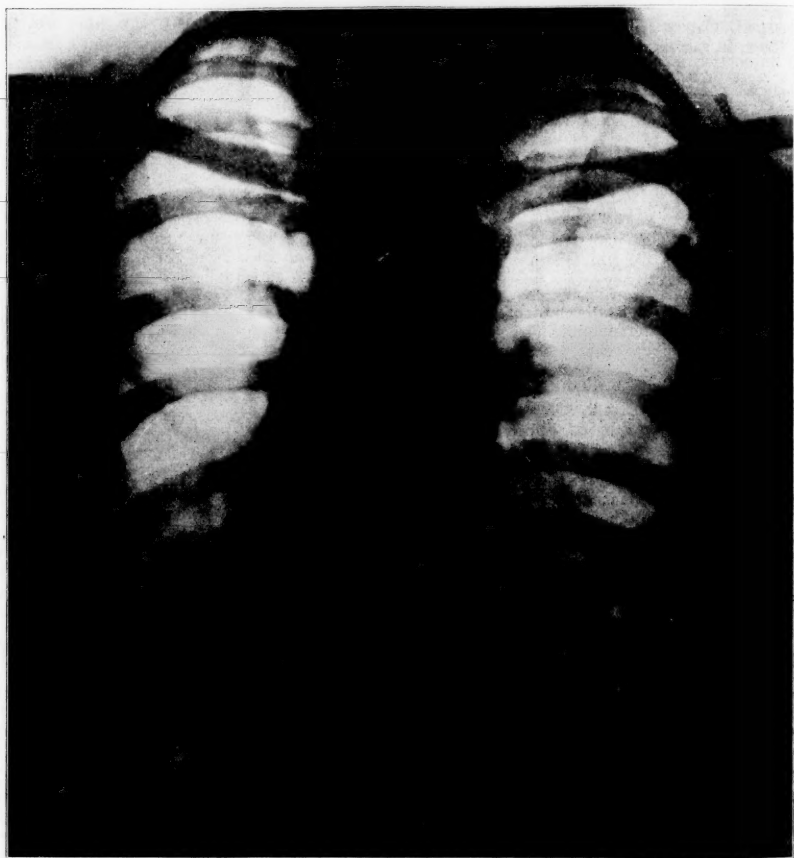
operation. Abdomen normal. Rectal examination. Small external hemorrhoids. Pelvic examination. Perineum torn. Cervix lacerated and down an inch from the introitus. Marked cystocele and rectocele. Fundus readily palpable; seemed somewhat enlarged. Pupils equal, regular, reacted normally to distance, questionably to light. Other reflexes normal. Fundi arteriosclerotic.

T. 99° - 101.1° . P. 110-150. R. 27-41, with a terminal rise to 105.8° , 170 and 51 respectively. Urine. 3, 30-36 when recorded, sp. gr. 1.024-1.028, a slight trace to the slightest possible trace of albumin at both of two examinations. Blood. Hgb. 80%, leucocytes 7,500-16,000, polynuclears 63%, reds normal. Wassermann negative. Stools. Guaiac strongly positive. Lumbar puncture. Fasting. Blood taken immediately after insertion of needle. Initial pressure 165. Jugular compression about 300, rapid fall to 180, then slow to 165. Pulse, respiration and cough normal. After withdrawal of 5 c.c. 120, after withdrawal of 5 more c.c. 90. No cells. Sugar 73. Blood sugar 120. Wassermann negative. Total protein 17. Goldsol 0000000000. X-ray. A tumor mass in the neck was visible in the X-ray plate and extended down to the top of the sternal notch but not beneath it. Otherwise nothing unusual in appearance of the chest.

The basal metabolism was estimated November 19 at +30. November 22 this was thought to be a poor guess and the metabolism was found to be 63+. That evening the temperature was 101° , the pulse rising. The muscles of mastication seemed stiff. The patient would open her mouth only a little way. A nerve consultant reported, "Probable cause of mask-like facies and 'mental changes' is encephalitis lethargica. Would a Widal be of any assistance in excluding typhoid of one year ago?" November 24 in reply to the question as to whether there was any evidence of laryngeal paralysis a throat consultant reported, "Unable to see larynx. Right tonsil inflamed. Pus draining from supratonsillar space, right. Advise cul-

ture of throat and hot irrigations." A surgical consultant reported, "I believe thyroid only incidental to some other underlying pathology and do not believe it the cause of the increased metabolic rate. I also doubt whether loss of voice is due to the pressure of goiter. No treatment directed towards thyroid seems to me nec-

esser of the throat inflammation—the diffuse and moderately brilliant redness, the more mucopurulent type of exudate—is more indicative of septic sore throat than of diphtheria. It is difficult to make out the condition under available lighting sufficiently to exclude clinically diphtheria, however. Advise isolation."



A tumor mass is visible extending down to the top of the sternal notch but not beneath it. Otherwise there is nothing unusual in the appearance of the chest.

essary. Would suggest X-ray of the sella. Goiter probably is degenerate adenoma." There was a red swollen tonsil with some dirty exudate apparently loose and easily displaced on one side. The lungs seemed clear. The patient looked more apathetic. November 25 a consultant in infectious diseases reported, "The char-

acter of the throat inflammation—the diffuse and moderately brilliant redness, the more mucopurulent type of exudate—is more indicative of septic sore throat than of diphtheria. It is difficult to make out the condition under available lighting sufficiently to exclude clinically diphtheria, however. Advise isolation."

November 26 the patient was distinctly worse. The mouth was very dry and the tongue parched. All the breathing was through the mouth. The throat showed a dirty looking film, not closely adherent. She did not retain tap water. She gradually weakened, and died early the morning of November 27.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

Disease of the central nervous system is certainly the first thing that comes to mind here, from the loss of voice, from the divergent strabismus, from the gait and the position of the arms. There is also a suggestion of cardiovascular trouble in dyspnea and loss of sight, which might easily come from arterial changes. Whether she really has been jaundiced or not is quite doubtful. There is nothing more unreliable that I know than the patient's history of jaundice.

So we begin the physical examination with organic disease of the central nervous system as the thing most clearly in mind, but so far as I am concerned with nothing more definite than that.

NOTES ON THE PHYSICAL EXAMINATION

1. The tumor was not attached to the thyroid cartilage, I think.

2. The diagram shows percussion dulness going two cm. outside the nipple, and a total diameter of fifteen cm., which would be large, if true. But I do not, as you know, pay much attention to cardiac percussion. On the whole I should think we had no particular evidence against the heart.

3. The patient apparently could not or would not breathe deeply when asked to.

4. There was a positive guaiac, but in only a single examination presumably, so not of significance.

5. Sugar 73 is not extraordinarily high, but rather high.

6. The gold solution is not in any way characteristic.

Will you interpret the X-ray, Dr. Holmes?

DR. HOLMES: I presume the clinician wanted us to see whether this mass extended underneath the clavicle into the thoracic cavity or not. There is little fullness. I do not know whether that was a real mass or not. An intrathoracic thyroid is usually visible below the clavicles. If it is not we do not interpret it as being intrathoracic. The sternal notch would be about opposite the ends of the clavicles. So that unless the shadow was definitely below that we should not interpret it as being intrathoracic. We saw no evidence of anything of that kind here. Usually such a mass as she has should be palpable in the neck.

The lung fields are both clear, the outline of the diaphragm is sharply defined on the right, rather indefinite on the left. There is considerable respiratory motion in this plate and it is quite possible that the haziness on the left is due to breathing and not to a pathological process.

The shape of the heart is well within normal

limits, and there is no definite increase in size. This plate was not taken for the heart particularly, and of course a small variation in size could not be interpreted from it. The aorta is a little prominent to the right and also to the left. It is not the type of aorta we should expect to find in dilatation. It suggests a moderate amount of arteriosclerosis. Forty-four is rather early, but still I think that might be. I should expect that there would be some tortuosity of the aorta.

DR. CABOT: It is reassuring to learn that even a throat consultant sometimes cannot see the larynx. Certainly the rest of us often cannot.

I suppose they were trying to give her water by rectum.

DIFFERENTIAL DIAGNOSIS

Very much the most definite facts we have here are the position of the arms and the expression of the face,—the mask-like expression and the arms kept in the position in which they often are either in what we used to call "paralysis agitans," or in the same clinical syndrome which we now know follows encephalitis. To back that up we have a paralysis of some of the cranial nerves, as shown by the diplopia and in the squint, though the squint was not observed at the time she came in here. It was observed in the Out-Patient Department. Other muscles like those of chewing and swallowing are often involved, and apparently are here.

Against paralysis agitans of the ordinary type is the acute onset of the thing. At least, I suppose it was acute. I am not very clear as to how long it has been going on. I do not suppose anyone can be.

The throat complication I believe is a complication and not the main trouble. The thyroid I do not believe has anything to do with it. The cause of her lack of voice is not clear. As her mental condition is apparently abnormal it may be merely that she does not make the effort to speak. The commonest cause of a loss of voice in internal medicine is aneurism, through paralysis of the left recurrent laryngeal. But we have no evidence to suggest that, and the X-ray seems to be sufficient to exclude it. There may be enough paralysis in the muscles of articulation, in the tongue and mouth, together with her septic condition, to account for her not speaking.

The basal metabolism could perfectly well be high merely on account of her fever. Any fever patient can have high metabolism. She has fever and sepsis. So that I am inclined to agree with the surgical consultant that the thyroid has nothing to do with the other facts of the case.

I should say, therefore, that there are two main features to this case, an underlying chronic organic nerve lesion as I said in the beginning, and a terminal sepsis. I cannot make any better guess as to what that underlying

organic nerve lesion is than the one which has been suggested, encephalitis lethargica. I do not think she died of that. I think she died of a terminal infection originating in the throat.

One of the things that confuses the picture is that apparently she has been losing her mind for a year, and that does not play in well with the guess of encephalitis. What else can cause that sort of picture? General arteriosclerosis, cerebral arteriosclerosis or syphilis. There is pretty good evidence I should say against syphilis in the spinal cord. I do not believe any evidence of syphilis will be shown either in the aortic arch or elsewhere. On the other hand, arteriosclerosis, although she is rather young for it, seems to me perfectly possible as a cause for most if not all of her brain symptoms. The sugar reaction in the spinal fluid, while it is not so high as we often see it in encephalitis, is higher than normal, and I do not know what else should have put it up. The pelvic examination, although there is a good deal noted there, does not seem to me of any importance. Neither do we find anything in the chest that seems to me to bear upon the case. The apparently diminished reactions of the pupils to light, if backed up by anything else, would be important. But it does not seem to me to be put down in a definite enough form to base a diagnosis of syphilis on, especially as we have nothing else pointing that way.

A PHYSICIAN: Could this be meningitis?

DR. CABOT: The lumbar puncture seems to throw that out. There are no cells. I do not know any form of cerebrospinal meningitis that does not affect the lumbar puncture fluid.

A PHYSICIAN: Brain tumor?

DR. CABOT: I have never known it to produce this picture. There is nothing in the fundus to back it up, no edema of the disc. There is no considerable headache or vomiting and not at all the type of paralysis that we expect with brain tumor, the only suggested paralyses being in the facial and ocular muscles.

DR. YOUNG: Does the strongly positive guaiac in the stool mean anything?

DR. CABOT: It does not to me mean anything when recorded only once, and when it does not link itself up with anything else in the case.

It is a blind case. I feel that I am quite likely to be wrong. But I can make no other diagnosis than that which the nerve people made, with the possibility in the background of some arteriosclerosis of the cerebral vessels with softening.

DR. E. L. OLIVER: The two miscarriages before the birth of the thirteenth child rather suggest the possibility of syphilis. We do not know when the four children died in infancy, whether after the miscarriages or before. I think it is a little suspicious. After a woman has had twelve children we do not expect her to have miscarriages.

DR. CABOT: In the record, though, there really is not much to back up syphilis.

DR. OLIVER: No, there is not, except that.

DR. CABOT: I think we can exclude it.

A PHYSICIAN: What should you say of the connection between the symptoms and the colic two years before admission?

DR. CABOT: I do not make anything of it at all. I think we have to throw it out. Of course it is the sort of thing we might get from hypernephroma and the bleeding from it. But we have nothing else to support that, and I think we have to disregard it.

BACTERIOLOGICAL REPORT

Throat cultures taken November 24, 25 and 26 were reported "Diphtheria bacilli present" November 25, 26 and 27. A culture taken at necropsy was reported positive November 29.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Septic sore throat with septicemia.
Hyperthyroidism.
Encephalitis lethargica?

DR. RICHARD C. CABOT'S DIAGNOSIS

Encephalitis lethargica.
Septic pharyngitis, etc.

ANATOMICAL DIAGNOSIS

1. Primary fatal lesion

Encephalitis lethargica (?)

2. Secondary or terminal lesions

Diphtheria.
Purulent tonsillitis, pharyngitis, laryngitis, tracheitis and bronchitis.
Thrombosis of the longitudinal sinus.

3. Historical landmarks

Hypertrophy of the thyroid.
Hypertrophy of the thymus gland.
Edema of the lungs.
Slight hypertrophy and dilatation of the heart.
Slightly defective closure of the foramen ovale.
Cholelithiasis.
Soft spleen.
Fatty metamorphosis of the liver.

DR. RICHARDSON: The dura was somewhat adherent to the calvarium along the longitudinal sinus, midway. The vessels of Willis and the pia were negative. A strip of the longitudinal sinus three or four cm. long about midway showed thickening of the wall, which disappeared at either end into a normal appearing wall. Along the intima of the strip there were several more or less continuous small frank thrombotic masses. These were continued out in places into the radicles coming into the longitudinal sinus, and the thrombotic material ex-

tended out into the radicles, in instances occluding them. The sinuses were otherwise negative.

The breast tissue yielded a thin opaque grayish fluid, and on section the tissue showed cystic mastitis in which this material had collected.

The thyroid gland was markedly enlarged, 9 cm. by 12 cm. and 5 cm. in thickness. It presented at the time of necropsy rather symmetrically enlarged lateral lobes fusing into an ovoid central mass which rounded up under the skin in the median line. Beneath the thyroid and closely associated with it was a thymus gland weighing thirty grams,—hypertrophy of the thymus and hypertrophy of the thyroid. Could this hypertrophied thymus be the appearance in the X-ray, Dr. Holmes?

Dr. HOLMES: I cannot say that it could not. I have never interpreted it that way. I think the thymus is usually below the clavicle.

Dr. RICHARDSON: The tonsils were slightly enlarged, boggy, and minute purulent masses could be expressed from them. The mucosa of the pharynx, the epiglottis and larynx were reddened, swollen, and bathed in pus. This pus extended in marked amount down the trachea into the bronchi. Cultures from this material at the time of necropsy showed typical growths of the bacillus of diphtheria. The heart blood culture was negative.

The heart weighed 335 grams. It was a little enlarged, otherwise negative.

The gall-bladder contained six stones, two mm. to five mm., consisting of brownish-yellow gritty material. They crushed under the thumb fairly easily. Bile ducts negative.

The uterus was slightly enlarged and contained a small amount of blood clot in the cavity. In one ovary there was a corpus hemorrhagicum.

Coming back to the brain, outwardly and on gross section it was frankly negative. We took sections from the medulla, the pons, along the aqueduct and from the basal ganglia. These sections showed in places vessels with perivascular infiltration, and in one section in the region of the aqueduct there was some infiltration of mononuclear cells in the brain tissue. In other words a perivascular infiltration like that associated with encephalitis lethargica.

Dr. CABOT: That thrombosis of the longitudinal sinus I suppose you interpret as part of the terminal sepsis?

Dr. RICHARDSON: It looked recent.

Dr. CABOT: Was there any malnutrition in the brain corresponding to this thrombus?

Dr. RICHARDSON: No.

Dr. CABOT: So that as far as you could see it had not done any harm?

Dr. RICHARDSON: Apparently not. The sinuses were only partially occluded.

Dr. CABOT: Oh, the blood passed along.

Dr. RICHARDSON: Yes, to some extent.

A PHYSICIAN: Had she had any antitoxin?

Dr. CABOT: The record shows that 30,000 units of diphtheria antitoxin was given November 25.

Dr. HOLMES: There is another interesting possibility, and that is the excluding of an enlarged thymus by X-ray. We are frequently asked to do this in children before an operation. I have always maintained that the X-ray does not give very reliable evidence, and I think this case tends to prove it.

A PHYSICIAN: Could you get an acute enlargement of the thymus due to diphtheria?

Dr. CABOT: No.

CASE 11062

MEDICAL DEPARTMENT

An American shoe-cutter of fifty-three entered November 9. The chief complaint was hemorrhage. A very incomplete history was obtained from his landlady and over the telephone from his doctor and a friend.

P. H. Twenty-three years ago he had malaria.

P. I. He had had stomach trouble as long as the landlady had known him, twelve years,—gastric discomfort and belching of gas half an hour after each meal. A little over a year ago he began to complain of epigastric pain relieved by soda. A year ago last July he had gas and epigastric pain at night, disturbing his sleep. The doctor prescribed a diet without fried and fatty foods. This the patient followed without much relief. Three months ago he began to grow pale and lost some weight, from 240 to 218 pounds. October 26 he felt very weak. The next morning he had a hard time at stool. That night he fainted twice. October 30 he went to a local hospital. That night he vomited eight ounces of dark blood (measured) and two small amounts after this. Later he had tarry stools. November 6 transfusion of 600 c.c. of blood was done. November 7 blood was present in the stools.

P. E. A very pale, old-looking man with a piping voice and apparently some mental aberration, though the appearance may have been due to a speech defect. Mouth and throat very dry. Purpuric spots over the buttocks, arms and chest. Brownish pigmentation on inner surface of thighs. In the region of the angle of the jaw on each side was a freely movable swelling, not hard, extending on the right from about the middle of the ear to the middle of the neck, about 5 cm. wide and elevated 2-3 cm. On the left the swelling was only 2-3 cm. in diameter. Apex impulse of the heart not found. No enlargement to percussion. Sounds of fair quality. Action regular. Blowing systolic murmur at the apex and over pulmonic area. Pulses and arteries normal. B. P. 95/65-95/50. Lungs, abdomen, pupils and reflexes

normal. *Rectal examination.* Moderate internal hemorrhoids. *Genitals.* Enlarged and hardened left vas deferens. *Extremities.* Partial paraplegia (weakness?). He could move the legs only with difficulty and then not well. Some loss of position sense in the left toes. *Fundi* showed sparsely scattered silvery whitish areas.

T. 98.4°-102.3° by rectum. *P.* 95-114. *R.* 30-20. Amount of urine not recorded, sp. gr. 1.014, other findings normal. *Blood.* November 9: Hgb. 45%, leucocytes 26,000, polymorphs 94%, reds 1,600,000, marked variation in size and shape, many microcytes and macrocytes, abundant polychromatophilia; large cells showed definite achromia, many stippled cells, many nucleated reds, several double nucleated, one extruding nucleus, two megaloblasts; platelets large and increased; reticulated cells 12.5% to about 20. *Bleeding time* 1 minute. *Coagulation time* 9 minutes. *Clot retraction* normal. *Group II. Consultation by Dr. Minot.* "Red cells show extreme signs of youth, every form of young cell being very plentiful. Often ten polychromatophilic cells per field. My count shows polymorphs 80%, red cells nucleated 17%, mononuclears 4%. A rare megakaryocyte was seen. Platelets slightly increased. The whole picture can be explained on blood loss. . . ." *Wassermann* negative. *Stools.* Guaiac very strongly positive at two tests.

Orders. November 9. Sips of water and cracked ice during the night, then Sippy régime*. *Morphia* gr. 1/6 s.c. every three hours p.r.n. B. P. and pulse every two hours as long as it is above 90, then every hour. Notify service if it goes to 85, also if pulse rises to 120. October 10. *Morphia* gr. 1/6 s.c., later gr. 1/4, then gr. 1/6 s.c. every four hours. *Brandy* 5 ii in water. *Morphia* gr. 1/4 with hyoscin hydrobromid gr. 1/100, repeat every four hours. November 11. Repeat *morphia* gr. 1/4 with hyoscin as above.

November 10 Dr. White found the heart, lungs and abdomen negative. That day the systolic blood pressure was dropping to about 65-70. It was impossible to arrange for a donor for transfusion. The patient seemed at times slightly irrational that day and night. The morning of November 11 he was mentally clear; the blood pressure was 70/40. Before transfusion could be done he suddenly lapsed into stertorous breathing and died.

DISCUSSION

BY DR. MAURICE FREMONT-SMITH

NOTES ON THE HISTORY

We have an oldish man who comes in with hemorrhage from the stomach. He has had a

*Sippy régime. See Nelson's Loose-Leaf Medicine, Vol. V, pages 260-263. The patient is kept in bed and put on a diet of milk and cream equal parts, three ounces every hour; gradually soft-boiled eggs, cereal, cream soups, purées, etc., are added. Calined magnesia with sodium bicarbonate is given between feedings, alternating with calcium carbonate with sodium bicarbonate.

rather indefinite gastric history of twelve years. He shows a marked anemia, purpuric spots over his body, some rather unusual enlargement in the region of the parotid glands, a very low blood pressure, and a question of paraplegia. We think first of course of ulcer of the stomach or duodenum with hemorrhage. The man is fifty-three. The history is not that which is typical of ulcer. However, we find frequently perforation or hemorrhage in cases with no previous gastric history whatsoever. It would seem as though, if this man had had carcinoma of the stomach, which would be the second diagnosis, with a history of twelve years he would have died before this. On the other hand it is quite possible that he might have had an ulcer of the stomach in which a carcinoma later appeared. McCarthy at the Mayo finds carcinoma in the base of almost every ulcer above the size of a quarter. It is evident that this man has had hemorrhage for some time. Some months ago he began to grow pale and lose weight. He had not vomited blood before the present. It seems probable therefore that this point of bleeding was below the pylorus, in the duodenum. This would again speak for ulcer as against carcinoma.

We have, besides this, purpuric spots over the abdomen, chest and arms. This brings up the question of some essential blood disease, either purpura hemorrhagica or symptomatic purpura secondary to an aplastic anemia, where with the aplasia of the red cells there is also aplasia of the platelets, or secondary to lymphatic leukemia, where the marrow is blocked up with lymphocytes and the platelets are not put out normally into the blood stream.

Again, as always, we must think of the gastric hemorrhage that goes with cirrhosis of the liver from dilatation of the esophageal veins. These are the four possibilities up to this point.

NOTES ON THE PHYSICAL EXAMINATION

We have now to comment on the tumors of the neck, which in my experience are of a very unusual description. We must think of the possibility of their being masses of glands. But glands of this size would hardly be described as soft, and we have no reference to any other glands in the body being enlarged. The probability seems that this is a tumor of the parotid. It is very unusual to have it bilateral. The common tumor of the parotid is the so-called "mixed tumor," the origin of which is in dispute by the pathologists. I believe now it is called a sarcoma. Perhaps endothelioma is the best description of the type of cell. In these tumors one finds cartilage and other formed elements. These tumors are only moderately malignant. They do not spread rapidly. They keep growing. If partially removed they recur, but if entirely removed no more is heard from them.

With normal reflexes I think this paraplegia

is probably simply weakness. The man was well bled out.

The blood picture, with the exception of the emphasis laid on the large cells, is simply that of very marked bone marrow activity such as one would expect to find with any acute loss of blood. Of course the megaloblasts, if they were actually megaloblasts, could hardly occur in normal blood, I should feel.

DR. CABOT: They do occur, only they are not so common. We do get them in secondary anemia.

DR. FREMONT-SMITH: With the normal bleeding-time and the many large platelets of course we can throw out absolutely purpura hemorrhagica. The coagulation time is approximately normal. (The coagulation time in purpura hemorrhagica is usually normal or very slightly increased; the bleeding time is definitely increased.) "Clot retraction normal" is against an essential blood disease.

It would be safe to transfuse this man with a Group II donor.

The megakaryocyte is a cell which occurs in the bone marrow and from which the blood plates are somehow derived. I never knew that cell could occur in the blood stream.

DR. CABOT: We have had three cases in this hospital in which it has been seen.

DR. FREMONT-SMITH: Sippy believes that operation in cases of bleeding gastric ulcer is contraindicated, and that the treatment should be directed to the protection of the blood clot as it forms in the stomach. Under normal digestive conditions this clot is simply a bit of albumin without vitality, and is digested by the ferments of the stomach. If this is prevented by neutralizing the acids so that the ferments cannot act on this plug the hemorrhage may not be started up again. If this bit of fibrin plug is dissolved there is no reason why the hemorrhage should not recur. He has had good results by giving large doses of magnesia and chalk to these patients who have had acute hemorrhages. He goes so far as to say that if there is a positive guaiac after three or four days of treatment the hemorrhage is probably not due to ulcer. The morphia is also a part of the Sippy treatment.

They were evidently expecting this man to get well. He was in here two days and they were not able to arrange for a donor in Group II.

DIFFERENTIAL DIAGNOSIS

Did he die from hemorrhage? That is not the usual way that a patient with hemorrhage goes out. It would seem as though he may have had a cerebral thrombosis, which would be quite possible with a blood pressure as low as this. It is necessary to speak of a possible cerebral hemorrhage, and if the man had had a purpura hemorrhagica we should have thought of that first, because it is quite fre-

quent. In a man, however, who is bleeding from a local source in his stomach, whose blood pressure has gone down to seventy, it would seem impossible that a cerebral hemorrhage would take place.

So I think we shall find a bleeding duodenal ulcer or possibly gastric ulcer, in which case we might find carcinoma at the base, mixed tumor of the parotid, and rather little else save anemia.

DR. CABOT: Wouldn't you consider parotitis complicating gastric lesions like this? We do see very acute parotitis, sometimes double parotitis. They did not say a word about it in his history, so that my impression is that it is recent.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Severe secondary anemia.
Bleeding peptic ulcer?
Cirrhosis of liver?
Esophageal varices.

DR. MAURICE FREMONT-SMITH'S DIAGNOSIS

Bleeding duodenal ulcer (or gastric ulcer?)
Mixed tumor of the parotid gland?
Anemia.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*
Ulcers of the stomach with hemorrhage.
2. *Secondary or terminal lesion*
Anemia.
Hyperplasia of bone marrow.
Slight fatty metamorphosis of the liver.
Edema of the lungs.
3. *Historical landmarks*
Slight chronic pleuritis.

DR. RICHARDSON: I was not permitted to examine the head. About the angle of the jaw there was an ovoid swelling. It was rather boggy, but did not have the definite contours of a tumor.

The interest in this case centers around the stomach. On the posterior wall and looping around on each side in the region of the lesser and greater curvature there were quite a number of ulcerations somewhat different in type, in that the large ones had margins descending abruptly to thin bases one of which had nearly perforated, and that some of the other ulcers showed irregular margins to many of which blood clot was adherent. These latter were shallower than the others. There was no evidence whatsoever of cancer.

CASE 11063

SURGICAL DEPARTMENT

An American blacksmith of seventy-six entered October 6.

F. H. Nothing significant is recorded.

P. H. He had scarlet fever and measles in childhood. Six years before admission he had an attack of acute retention requiring catheterization. Since that time he had had frequency with weakness of the stream and difficulty in starting it. He was often unable to urinate except when he defecated. During the past three years he had had several attacks of dizziness and faintness.

P. I. Two years before admission he noticed occasional small amounts of blood after a bowel movement. Soon after the onset of this it became necessary to go to stool oftener than before and with less satisfactory results. These symptoms gradually increased for a year. Then he observed a small mass at the anus which protruded during defecation. This had gradually increased to its present size and extended around the orifice. During the past year the frequency of defecation had increased until he now had to get up two or three times during the night. The act was usually accompanied by considerable involuntary straining, and much voluntary effort was also necessary to force through even a stool of very small caliber and amount. He was occasionally troubled with noisy borborygmus. Within the past year he had lost about twenty-five pounds. Recently he had grown much weaker, though he had kept at his trade of blacksmithing steadily. The day of admission he had been unable to urinate and had required catheterization.

P. E. A rather thin old man. Left nostril somewhat obstructed. Teeth all gone except five old snags. Right inguinal glands palpable. Apex impulse of the heart not found. Left border of dullness 2 cm. outside the nipple line. No other measurements recorded. Action regular. Sounds distant. No murmurs. Pulses of high tension. Radials rigid, brachials beaded and tortuous. B. P. 170/80. Lungs clear. Emphysematous breath sounds. Abdomen tympanitic. Audible peristalsis almost continually; no visible peristalsis noted. Extremities, pupils and reflexes normal. Rectal examination not done on account of tenderness.

Before operation chart normal, amount of urine not recorded, sp. gr. 1.020, other findings negative, blood not recorded. Wassermann negative.

October 9 operation was done. The patient was comfortable after it and did very well. He was catheterized twice a day. October 11 he complained of some pain in the abdomen and was somewhat nauseated. He could pass only a little urine at a time. October 13 he still complained of nausea, but had no vomiting, abdominal pain or fever. He was pale and had no appetite.

October 16 a second operation was done. He

was in considerable shock after it. There was some staining. He was put in shock position. The next morning he died.

DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

I should say that this man is a pretty poor subject for any form of surgical treatment, because we have one condition here that is very serious and another which may have so reduced his general condition by way of his kidneys that he has not much to go on. As we read the story it seems to me hard to make a diagnosis of anything but malignancy. It is true that rarely hemorrhoids which are neglected may become indurated and form a mass around the anal orifice somewhat similar to this. But it is very unusual and I doubt if it goes to this extent, because there is here a definite narrowing of the lumen. I do not see any other diagnosis that we can really make. Of course syphilitic growth such as does occur is a growth outside of the anal orifice, and it does not obstruct the actual calibre of the opening. It does not bleed as a rule. So it seems to me that malignant disease is the only thing we have a right to consider seriously.

From the story we have to question seriously his kidney condition. This is important as influencing the treatment undertaken. There are two things that can be done to this patient. One is palliative, a colostomy, and the other is the radical attempt to remove all of this mass. It is six years that we know of since he has had acute retention, and in the interim he has had difficulty in starting the stream and inability to urinate very often except at stool, and the day before he came in he had to be catheterized again. He may have had trouble longer. It is true that he may have lateral enlargements of the prostate and between times no great back pressure. On the other hand this may spell enough trouble to the kidney so that he has nothing there to go on in the way of kidney reserve. It seems to me that this ought to be looked into a little bit. Of course there is the point of view that it is a kindness to go in and either kill him or cure him. That is a form of euthanasia that sometimes seems justified.

They give no further description on rectal examination, I imagine because they assume that there is only one thing it can be.

1.020 is a pretty good specific gravity, so, so far as we go, we have no evidence of kidney damage.

I assume the operation was an abdominal exploration to see if the liver was involved or the regional glands enlarged and to do a colostomy.

A SURGEON: When do you consider inguinal glands abnormally large?

DR. YOUNG: It is a very hard thing to say at seventy-six. Any man of seventy-six doing manual labor is going to have large glands be-

cause of the inevitable slight amount of sepsis he has had from trauma to the legs, and it is very late in the disease that any malignancy from the lower intestinal tract gets around to the inguinal glands. So I do not believe that that is of much importance.

A SURGEON: Don't you find that the glands are palpable in practically every man?

DR. YOUNG: Yes. Just why they put this in here, unless they wanted to emphasize the fact to cover themselves for future possibilities, I don't know. That is the only thing I can think of.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Carcinoma of the rectum.

PRE-OPERATIVE DIAGNOSIS OCTOBER 9

Carcinoma of the rectum.

FIRST OPERATION

Under novocain anesthesia a two and a half inch muscle splitting incision was made in the left lower quadrant. A finger was passed down into the abdomen and a piece of the sigmoid identified and brought up into the wound. This loop of gut was held up into the wound by sewing skin and fascia beneath it.

FURTHER DISCUSSION

In other words they did the least possible thing, did not investigate the liver, did not investigate the glands. They simply did a colostomy to see if they could get him into a better condition.

They do not tell us anything more about the residual or whether he voided at all. Of course if he did not void at all catheterization twice a day is not enough.

DR. CABOT: Shouldn't you say that he was in about as good shape for the second operation as you could expect for that condition?

DR. YOUNG: Yes.

DR. CABOT: You would say the first was a thoroughly successful operation? They accomplished what they tried to do?

DR. YOUNG: Yes.

SECOND OPERATION

Spinal novol. A long spindle incision from midecocyx to posterior part of the scrotum. As soon as the skin incision was completed a running continuous catgut suture was used to close the anus. Dissection was carried out close to the ecocyx behind, close to the lateral pelvic wall on either side, and as far forward as the prostate. Instead of being a low carcinoma involving the anal ring alone and somewhat above, the growth evidently began well up in the region of the prostate and extended down through the anus. The growth involved the prostate and seminal vesicles. It was removed with the greatest difficulty. The patient's con-

dition was poor throughout. There was very little bleeding during the operation. The rectum was finally freed to above the growth, clamped and tied off. While this operation seemed to be of very little value it was felt that it would give the patient enough comfort to pay for the discomfort of the operation. It was impossible for the patient to sit down; the reason could easily be seen in that the growth extended out through the anus and was very firmly adherent to the prostate and seminal vesicles, therefore a sitting posture caused direct pressure upon the prostate and seminal vesicles.

PATHOLOGICAL REPORT

A section of rectum 9.5 cm. long with the anus and pararectal tissue. There is a large, elevated, flat purplish red growth just above the anal ring measuring 5.5 cm. in greatest diameter. This does not entirely encircle the lumen. There is a chain-like mass of hard nodules in the pararectal tissue, which contains little fat.

Microscopic examination of the tumor shows irregular gland tubules of atypical epithelial cells invading the muscular wall. The nodular cord in the pararectal tissue shows the structure of a seminal vesicle and prostate and is invaded by similar irregular gland tubules with an abundant reactionary fibrosis.

Adenocarcinoma with invasion of the prostate and seminal vesicles.

FURTHER DISCUSSION

That is the basis on which I think it was justified, and the only basis. The thing that one has in mind, as I see it, is that if it does not do that it is going to kill him; and as I heard an old soldier tell Dr. Maurice Richardson when he was to do a radical operation on his tongue, "If you cure me I will see that you get credit here, and if you kill me I will see that you get credit across." The suffering from these conditions is very great. The patients are of no use to themselves and are a source of worry to everyone around them. So that they are, although it seems hard to say it, better off dead unless they can be helped from an operation.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the rectum

Operation, colostomy, resection by posterior route.

DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the rectum.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*
(Adenocarcinoma of the rectum.)
2. *Secondary or terminal lesions*

Hemorrhage into peritoneal cavity and into the peritoneal and retroperitoneal tissues.

Anemia.

Slight arteriosclerosis.

3 Historical landmarks

Operation wound for adenocarcinoma of the rectum.

DR. RICHARDSON: The peritoneal cavity showed no evidence of peritonitis, but contained 700 c.c. of blood and blood clot,—an extensive hemorrhage into the peritoneal cavity.

DR. YOUNG: Where did that come from?

DR. RICHARDSON: I cannot tell except that it was from the region of the operation.

DR. YOUNG: From the lower?

DR. RICHARDSON: Yes. The gastro-intestinal tract, except as we shall mention, was negative. The large intestine above the colostomy wound contained a large amount of fecal material, rather solid and in smaller and larger masses. The sigmoid below the colostomy contained considerable fecal material. The lower end of the sigmoid at the time of necropsy was open and there was a rent in the peritoneum in the region of the end, and the tissues in that region were infiltrated with blood and blood clot. This of course was continuous with the blood and blood clot in the peritoneal cavity. Of course it was impossible to tell the particular vessels. Is there anything in the history of any bleeding from the wound?

DR. YOUNG: No; it merely says slight staining.

DR. RICHARDSON: The liver was small. No metastases were found.

The circulatory apparatus generally was negative except for a moderate amount of arteriosclerosis.

The prostate was slightly enlarged. There was some question as to whether there was any new growth on its outer surface at the time of necropsy; but the sections were negative. The lateral lobes were a little large. The urethra was patent and the bladder negative. In the situation of the seminal vesicles there was a lot of ragged tissue infiltrated with blood.

DR. YOUNG: They took those out.

THE PREVALENCE OF MALNUTRITION AMONG CHILDREN

We quote a portion of a very thoughtful and able article by Walsh and Foote, "The Nervous Child and the Spoiled Child," which appeared in the December, 1923 issue of *The Ladies Home Journal*. The authors therein state:

"Of the twenty-two million children in our schools, 30 per cent are so far below standard weight as to suggest a condition of undernourishment, and three million are in urgent need of medical attention."

CURRENT LITERATURE

ABSTRACTORS

GERARDO M. BALBONI	TRACY MALLORY
WILLIAM B. BREED	HERMAN A. OSGOOD
LAURENCE D. CHAPIN	FRANCIS W. PALFREY
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FRED S. HOPKINS	WILDER TILSTON
CHESTER M. JONES	HENRY R. VIETS
CHARLES D. LAWRENCE	SHIELDS WARREN
	BRYANT D. WETHERELL

FUSIFORM BACILLI AND SPIROCHETES

PILOT, L. and KANTER, A. E. (*Archives of Derm. & Syph.*, 10:561, November, 1924), found fusiform bacilli as well as spirochetes frequently present in the smegma secretion of normal women. They are usually absent in the cervix and vaginal tract. They play no role in the production of leukorrhea. They are important infecting agents in syphilitic lesions of the vulva, erosive and gangrenous vulvitis, condylomata acuminata, necrotic fibroids and carcinoma of the uterus and vagina. Infection with these organisms is characterized by necrosis and foul odor. The presence of these organisms normally would indicate that many ulcerative processes about the genitalia are due to autogenous infection and are not necessarily the result of bacteria from other sources.

[R. W. C.]

A CASE OF YAWS OCCURRING IN MISSOURI

CADY, L. D., and ENGMAN, M. F. (*Archives of Derm. & Syph.*, 10:446, October, 1924), describe a case of this disease occurring in a negro who probably became infected while in St. Louis. The patient promptly recovered under neo-arsphenamine. Other reported cases have largely been in our seaport cities in patients who have come up from the tropics.

[A. W. C.]

THE CALCIUM CONTENT OF THE BLOOD IN VARIOUS DISEASES OF THE SKIN

SCHWARTZ, H. J., and LEVIN, G. L. (*Archives of Derm. & Syph.*, 10:544, October, 1924), have made very careful determinations of the blood calcium content of various dermatoses and find no positive relationship between the skin and the calcium content of the blood though there were some deficiencies found in some few cases.

[A. W. C.]

AN EXPERIMENTAL STUDY OF THE PROPHYLAXIS OF SYPHILIS WITH ARSPHENAMINE, NEO-ARSPHENAMINE, AND SULPHARSYPHENAMINE

GREENBAUM, S. S., and HARKINS, M. J. (*Archives of Derm. & Syph.*, 10:409, October, 1924), found that single doses, equivalent to the dosage required by human beings, of arspenamine, neo-arsphenamine, and sulpharsphenamine given to rabbits experimentally inoculated with syphilis did not prevent the development of the disease, at intervals of three hours and twenty-four hours between the infection and treatment. This is at variance with many published reports on human cases. However, it is not absolutely possible to reproduce in rabbits the same condition in which man becomes infected with syphilis.

[A. W. C.]

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WISCONSIN'S "EUGENIC LAW"

WHEN in 1913 Wisconsin passed a "Eugenic Marriage Law" requiring every man who applied for a marriage license to provide a physician's certificate attesting his freedom from acquired venereal disease, this legislative act attracted wide attention. In the same year Oregon and north Dakota passed similar laws, and since then Alabama (1919) North Carolina and Wyoming (1921) and Louisiana (1924) have followed their example. On the other hand, since 1901 thirty-seven legislatures have voted down 90 proposals of the same general character.

It is evident that wide differences of opinion exist as to the wisdom of enacting such legislation. Its object—the protection of brides from venereal infection—is obviously desirable; those who oppose it must do so because they believe that such legislation fails to attain its purpose.

Fortunately for future discussions of this subject, a collection of facts in regard to the actual workings of the law as evidenced in Wisconsin has been made and is available for all interested. The Russell Sage Foundation has published a 92 page monograph on "Medical Certification for Marriage" written by Fred S.

Hall.* Mr. Hall, when investigating the operation of the law in Wisconsin, drew his information from questionnaires sent to physicians, men engaged in social service, health officials, and applicants for licenses to marry.

The original law passed in 1913 demanded a certificate stating that the applicant had been found "free from acquired venereal diseases so nearly as can be determined by physical examination and by the application of the recognized clinical and laboratory tests of scientific search." A maximum fee of \$3.00 was established. Apparently little effort was made to prepare the physicians of the state to carry out their part of the program and at that time there was no provision made by the state for examining smears or doing Wassermann tests. In fact, an opinion was rendered by the Attorney General that the Legislature did not intend to require the latter test. Even the constitutionality of the law was doubted, the Supreme Court of the State declaring it to be constitutional by a vote of only 3 to 2. In 1915 a revised law was passed by the Legislature. The principal changes provided for free laboratory service by the state, required clinical and laboratory tests only when the examining physician believed them to be necessary, and reduced the fee from \$3.00 to \$2.00.

Review of the author's statistics compiled from questionnaires returned by 1027 physicians leads one to agree with Mr. Hall's own conclusions; the majority of the medical profession of Wisconsin, in spite of admittedly inadequate remuneration, do perform their duties in regard to examination of applicants in a conscientious manner. Although 23.6% report that they do not always perform physical examination, many of them qualify this statement by saying that they omit the examination when they are personally acquainted with the applicant. A number of physicians refer to the opportunity given them to talk seriously to the prospective bridegroom concerning the dangers of latent venereal disease. Mr. Hall's study has proved that the examinations are not done wholesale by just a few physicians; that they are made largely by the family doctor, and with seriousness.

There are of course numerous objectors. Of 364 opinions as to whether the law was of value in preventing infection of brides, 233, or 63.8%, were favorable, 36.2% unfavorable. It is interesting to note the criticisms, to many of which the answer is self-evident, while others are absolutely well founded. "Women are not Examined. Examinations Fail to Give Protection to Women. False Assurance of Safety is Given. Public Examiners or Other Specially Designated Examiners are not Required. Marriage of Men Found Diseased is not Prevented. Infection is not Prevented by the Prevention of Marriage. The Law is Evaded through Mar-

*Price 50 cents.

riages outside of the State. The Inadequate Legal Fee. Marriage of Men is Forbidden even when their Disease is not Communicable. Laboratory Tests are not Required in Every Case. Failure of the Law to Provide for State Supervision."

The Wisconsin law is admittedly not ideal, nor, if it were ideal, would every licensed practitioner of medicine be qualified to carry out its provisions in a thoroughly competent manner. Apparently, however, it has made the people think of the dangers of venereal disease; it brings every man who contemplates marriage into contact with a physician. There are but very few men so base that they would marry if they knew they were afflicted with a venereal disease in a communicable stage; the vast majority are thankful for the word of advice that prevents such a calamity. Ignorance and heedlessness are the causes which are responsible for so deplorable a situation, when it does exist, and these factors can be largely offset by medical certification.

THE AMERICAN ASSOCIATION FOR MEDICAL PROGRESS, INC.

UNDER this new name, The Friends of Medical Progress are continuing their good work of the last two years. It has been considered advisable to remove the headquarters of the society to 370 Seventh Avenue, New York City, and to install a general secretary. The membership now consists of more than two thousand. Of this number, relatively few are physicians as the officers of the society have endeavored to get as representative an organization as possible.

Approximately 72,000 pamphlets dealing with various phases of the work have been distributed to members of the Society and to the general public. These include:

The Society of Friends of Medical Progress—Why it was Founded.

Some Recent Opinions on Modern Vivisection by Competent Living Authorities.

Vivisection and Modern Miracles and Vivisection and Animal Welfare.

Texas Fever being Conquered as a Result of Vivisection.

How Vivisection Abolished Yellow Fever.

How Pasteur Convinced the World.

Save Your Children from Diphtheria!

Your Child's Life or the Dumb Animal's?

Smallpox.

Many lectures have been given, twelve of them by Mr. Ernest Harold Baynes. Branches of the society have been organized in Cincinnati, Brooklyn, and Denver, Colorado. The Canadian Medical Association, at a meeting held on April 7, 1924, appointed a Committee to take whatever action seemed wise in establishing in Canada, a society similar to the Friends of Medical Progress.

The Society took an active part in laying

plans for the hearings on three bills before the Massachusetts State Legislature, all of which dealt with vaccination. The two anti-vaccination bills to which the Society was opposed, were defeated. Several anti-vivisection bills introduced in other states were called to the attention of the Society, but in each instance investigation showed that their defeat was assured through the forces of local opposition.

ARE PHYSICIANS NARROW-MINDED?

Nor long ago the Governor of a New England State was urged by a citizen to appoint some physician on the Board of Trustees of an institution where it seemed that his training and experience would be of value to the public. The reply of the Governor is said to have been that "physicians now-a-days were so narrowly trained in their various specialties that he did not know where to turn to secure the services of one who could take a broad view of any public matter."

We do not believe that this opinion of physicians is justified by the facts. But it is important that such an opinion could be expressed, and it is important for physicians to consider why such an opinion should be held regarding their profession. Over-specialization, the training of students to be specialists before they have a broad conception of general medicine and an undue specialization and standardization of pre-medical studies are the bases upon which the criticism rested.

Even though the above remarks seem unjust ought we not as a profession consider whether there are grounds for criticism of our attitude upon public or semi-public matters and ought we not consider whether medical education today is meeting the demands which the public have a right to make? Medicine has always been a liberal profession and it ought to continue to be such in every sense of the term.

LEGISLATIVE NOTES

House 68 relating to reports of fiduciaries of the mental condition of beneficiaries, if such are insane, to the State Department of Mental Diseases has been heard and the report of the committee is to the effect that no legislation is necessary.

House 108 relating to compensation for occupational diseases has received an adverse report accepted in concurrence in the Senate.

Hearings. February 10 in room 450, 10.30 A. M., Senate 171, which provides for automatic sprinklers in tenements and hospitals. February 12 in room 480, Senate bill 226, at 10.30 A. M.

This bill under petition of J. Oliver Sartwell is for the registration of osteopathic practitioners and regulation of the practice of osteopathy

under a board composed of five graduates of osteopathic colleges.

The bill would provide for those registered under its provisions the privilege of practicing medicine in all of its branches. The policy of this state, hitherto, has been to maintain one standard for practitioners of medicine. The experience of other states, where different boards of registration with different standards have been created, has furnished evidence that such customs have in many instances been inimical to sound public policy.

The standards adopted by Massachusetts are none too high and it is fair to assume that attempts to secure the registration of graduates of any school of medicine as such, is for the purpose of enabling persons to practice who are unable to meet the present requirements. The people are safer under one standard. Many osteopaths have been able to secure registration which is an argument in favor of continuing the present system. No person need be denied osteopathic treatment.

MISCELLANY

RESIGNATION AND APPOINTMENT OF DR. G. K. PRATT

Dr. George K. Pratt, for the past three and a half years Medical Director of the Massachusetts Society for Mental Hygiene, has resigned that position to accept the Assistant Medical Directorship of the National Committee for Mental Hygiene in New York City.

APPOINTMENT AS CONSULTANT TO CAMBRIDGE HOSPITAL

At a meeting of the Cambridge City Hospital Trustees held on December 29th, 1924, William J. Macdonald, M. D., was appointed to the position of Consultant Dermatologist.

SOCIAL HYGIENE COUNCIL GETS FIF- TEEN THOUSAND

The work of the Canadian Social Hygiene Council in conserving health and influencing longevity has received a high tribute recently. The Metropolitan Life Insurance Company of New York has made a grant of fifteen thousand dollars to aid in extending throughout Canada its child welfare and educational activities.

This company has long been famous for its generous support of such movements as may offer definite means of prolonging human life. It is today spending several millions annually in public health work in Canada and the United States. It has aided anti-tubercular work. It supports scientific programmes of child welfare, and it is now stepping forward to fight against venereal diseases.

Dr. Gordon Bates, General Secretary of the Canadian Social Hygiene Council and founder

of the movement in Canada, in speaking of this grant states that it will make possible two very desirable but hitherto unattainable extensions of the work of the organization.

Organizers for the western and eastern provinces of Canada will at once take the field in order to reach all the rural as well as urban communities in Canada, and to stimulate the work of the fifty existing branches of the Council. In addition to this an expert will be put in charge of the educational policy of the Council who will coöperate with a voluntary Advisory Committee of physiologists, psychologists, biologists, hygienists and educationalists, to work out an educational scheme for the young which will be national in scope and acceptable in all parts of the Dominion. Teaching the young the fundamentals of social hygiene cannot be done in a haphazard way. In order to teach to the young whether through the parents or in other ways and from earliest years, in an effective, scientific but simple manner, certain biological facts, the necessity for clean standards of conduct, if health and happiness are to be maintained, and their individual responsibility for the maintenance of proper social conditions, a well thought out plan must be devised.

This will now be done and it is felt that a quite definite advance will then have been made toward the achievement of higher racial standards.

Two appointments have been already made. Mr. A. D. Hardie, M. A., of Cambridge, an English headmaster and educationalist of wide experience, will take charge of some of the work of the educational department of the Council, and Dr. L. A. Pequegnat will become organizer for the eastern provinces. The latter is a graduate of Toronto University and a Doctor of Public Health with considerable experience in municipal work.

BOYLSTON MEDICAL PRIZES OF HAR- VARD MEDICAL SCHOOL

The Boylston Medical Prizes, which are *open to public competition*, are offered for the best dissertation on questions in medical science proposed by the Boylston Medical Committee. The Committee is appointed by the President and Fellows of Harvard College. The names of the Committee appear in the annual catalogue of the Harvard Medical School.

A prize of five hundred dollars and the Boylston Prize Medal is offered every three years for the best dissertation on the results of original research in medicine, the subject to be chosen by the writer. The Boylston Prize Medal will be added to the money prize only in case the winning essay shows special originality in the investigations detailed. In awarding these prizes, preference will be given to dissertations which exhibit original work; if no dissertation is considered worthy of a prize, the award may be withheld.

Dissertations entered for this prize must be in the hands of the Secretary on or before December 31 of the year in which the prize is offered.

Each dissertation must bear, in place of the author's name, some sentence or device, and must be accompanied by a sealed packet, bearing the same sentence or device, and containing the author's name and residence within.

Any clue by which the authorship of a dissertation is made known to the Committee will debar such dissertation from competition. Previous publication of the work, if in form to give a clue to authorship, will debar from competition.

Dissertations must be printed or typewritten. All unsuccessful dissertation are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, *if called for within one year* after they have been received.

By an order adopted in 1926, the Secretary was directed to publish annually the following votes:—

1. That the Board does not consider itself as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.
2. That, in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The address of the Secretary of the Boylston Medical Committee is Dr. Henry A. Christian, Peter Bent Brigham Hospital, Boston, Mass.

TO PROMOTE INTERCHANGE OF HEALTH AUTHORITIES

January 17th, 1925.

INTERCHANGE of the Public Health Officials of different nations is planned by the Health Committee of the League of Nations, according to a report to be filed with the Council of the League.

The first interchange this year will take place in March in Great Britain, where public health officials from several nations will spend seven weeks. The second interchange will take place in Belgium in May, and the third later in Yugoslavia. The Yugoslavian Government has offered to pay the traveling expenses of all participants of this exchange.

The Japanese Government is making an arrangement for a similar interchange in Japan in the Fall to coincide with the meeting of the Far Eastern Association of Tropical Medicine.

Other interchange plans are also under way: one for specialists and factory inspectors, and one for public health officers who have specialized in the protection of maternity and child welfare.

The value of this international coöperation in the improvement of public health has been so generally appreciated by the members of the League of Nations that the Assembly has tripled

its appropriation for the work in the current year.

When the interchange conferences are held in highly developed countries like England or Belgium, it means that health officers from the more backward countries are given an opportunity to study the best practice of modern hygiene. When, on the other hand, the interchange is held in one of the old but less modern countries like Czechoslovakia, it means that the local health organization, which is just being organized, has the benefit of the advice and suggestion of the visiting health officers of the more highly developed countries.

DEFECTIVE EYE SIGHT

EXPERIENCE has told:

Nine out of every ten persons over twenty-one years old have imperfect vision.

Of several thousand school children in one of our large cities, 66% of them have defective vision.

Of more than 10,000 employees in factories and commercial houses, 53%, it was shown by examination, had uncorrected faulty vision, and only 13% had defects which were corrected, making a total of 66% who required aids to vision.

Statistics compiled by the Provost-Marshal General's office show that of the twenty-one different classes into which were divided physical defects disqualifying for military service, eye defects ranked third. Only two other classes showed a higher ratio of rejections.

Of the twenty-four million school children in the United States, 25% to 40% have serious errors of vision that should receive immediate attention.

EXPERIENCE also tells us that defective eyesight is the cause of many other human ills. It is responsible for many of the thousands of Misfits and N'er-Do-Wells that we find about us everywhere.—*The Eye Sight Conservation Council of America.*

BUREAU OF CHILD WELFARE

AN International American Bureau of Child Welfare was recently established in Montevideo, Uruguay. This Bureau, provided for by the second and fourth Pan American Congresses, will deal with child-welfare matters of interest to all the American countries.—*U. S. Children's Bureau.*

GERM KILLING EFFECT OF ULTRA- VIOLET MEASURED

SHORT WAVES KILL QUICKLY, BUT LONGER
ONES ALSO FATAL

A STUDY of the germ killing action of ultra-violet rays has been made by the Bureau of Standards, Department of Commerce, covering

the range of wave lengths from just beyond the limit of the visible spectrum down to the shortest wave lengths emitted by a mercury vapor are in a quartz lamp.

The shortest waves were found to have the most pronounced and vigorous action, being capable, when sufficiently intense, of producing death with an exposure of only one second. Longer wave lengths required a greater intensity and acted much more slowly, but a killing action was found to result even from waves as long as 365 millionths of a millimeter, which is almost as long as the shortest waves visible to the human eye. Prior to this experiment doubt had been expressed regarding the ability of these longer waves to kill bacteria.

COMMON SEWAGE GERM USED

Bacterium Coli Communis was the victim of the tests. This germ is always found in human sewage or in waters that are polluted and likely at some time to contain typhoid. The germs were turned loose in a large volume of water and some of this water was sprayed onto petri dishes containing a solidified jelly, specially prepared to suit their tastes. Those germs not killed by the rays increased and multiplied in a few days formed colonies visible to the eye. A quartz mercury vapor lamp was used as the source of ultra violet rays, screens being interposed to cut off successive spectral ranges of the wave lengths which cause germicidal action.

CAN KILL IN LESS THAN A SECOND

Rays of sufficient intensity, it was found, could kill bacteria with an exposure of less than one second duration. A certain minimum intensity was required for this, and when using a 30 watt mercury lamp this intensity was obtained at a distance of six inches from the lamp.

When the intensity was very low the killing action was greatly retarded. In some experiments an exposure of 75 to 80 seconds was required. On still lower intensities there was some indication that the bacteria were stimulated instead of being killed.

Other tests were made to compare the relative value of continuous and intermittent exposures. It was found that the killing effect was proportional to the total exposure, whether this was given all at once or was divided into several short exposures with periods of rest between.

THE WORLD'S CHILDREN

CHILD LABOR ON THE STAGE

Stage children or would-be stage children are exploited in many cases by commercial dancing teachers and the theatrical interests, according to a report of the San Francisco Juvenile Protection Association.

Working with the State Bureau of Labor

Statistics, this association investigated commercial vaudeville performances in which children appeared during last March and April. It was found that dancing teachers were giving instructions to more than 300 children between the ages of 5 and 15 in singing and dancing for the stage. During the two months of the study more than 270 children's performances took place, forty-five per cent. of which were wholly or partially illegal, and which involved 443 violations of the child labor law. The children received little or no money for their work, while the dancing teachers are paid by the parents and also by the theatres.

BETTER CARE FOR MOTHERS

A Nation-wide movement to improve maternity conditions has been begun by the American Gynecological Society, the American Child Health Association, and the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

WHY CHILDREN ARE ABSENT FROM SCHOOL

Fifteen public schools in Washington, D. C., were studied during 1923-24 by a committee of which Dr. Louise Tayler-Jones was chairman, in order to discover the causes of school absences. It was found that more than 70 per cent. of all absences were due to medical problems, more than one-fourth being due to the common cold, and nearly 40 per cent. to respiratory disturbances. Boys and girls seemed to be absent equally for all causes.

WHY ARE CHILDREN BAD?

Delinquent children are usually under par physically. This is shown by a study made in New York of 743 children brought before the children's court. Examination of these children indicated that the physical condition of delinquent children in general is much inferior to that of ordinary school children. Seventy-nine per cent. of the children before the court had physical defects, while only 35 per cent. of public school children living in the same districts and of the same ages and nationalities had defects. The chief difference between the two groups, so far as physical conditions were concerned, seemed to be in nutritional and glandular disturbances.

HOW TO ENFORCE CHILD LABOR LAWS

Writing a statute to protect children from exploitation is not the whole story; the law must also be enforced. In order to help State labor officials and others interested in enforcing their child labor laws, the Children's Bureau has issued a report on the administration of child labor laws. This report is in five parts. Part five has just come from the press. The need for such a report was shown by conditions found at the time when the first Federal child-labor law

was in effect. During that period Federal inspectors discovered many violations, not only of the United States law, but of State laws themselves. This report, which is written by Dr. Helen Sumner Woodbury, outlines methods of enforcement found successful in various States.

CHILD IMMIGRANTS

The emigration of children sent from the poor-law and charitable institutions of Great Britain to the British Dominions is a subject of much debate in England at the present time. An investigation of how child immigrants are faring in Canada is being made personally by Miss Margaret Bondfield, Parliamentary Secretary for the British Ministry of Labor. A recent Canadian report stated that the present policy of immigration was merely a method of importing cheap labor from Great Britain.—*U. S. Department of Labor, Children's Bureau, Washington.*

A CORRECTION

ATTENTION has been called to an error in the notice of the death of Dr. Vinson Meader Tirrell. A classmate informs the JOURNAL that Dr. Tirrell graduated from the Harvard Medical School, not from the College of Physicians and Surgeons of Boston.

ADDITIONS TO THE TEACHING STAFF AT THE HARVARD MEDICAL SCHOOL

DR. ROBERT C. COCHRANE has been appointed instructor in surgery and in genito-urinary surgery; Dr. Gustave P. Grabfield, instructor in pharmacology and assistant in medicine; Dr. William G. Lennox, assistant in medicine and research fellow in neuropathology.

DELETERIOUS SUBSTANCES NOT TO BE ADDED TO GASOLINE SOLD IN NEW YORK CITY

At a meeting of the Board of Health of the Department of Health, held October 30th, 1924, the following resolutions were adopted:

Whereas: It has been brought to the attention of the Board of Health that compounds of lead or other deleterious substances are being added to gasoline, in tanks of motor vehicles or motor engines generally, for the purpose of increasing gasoline or motor efficiency, and,

Whereas: It is the opinion of the Board of Health that such mixtures of gasoline, containing lead or other deleterious substances, are or may be liable to prove detrimental and dangerous to the health and lives of the community, particularly when released as exhaust from motor vehicles and motor engines.

Be It Resolved: That the Board of Health does hereby prohibit and forbid the use of gasoline, for any of the above purposes, to which

either compounds containing lead or other deleterious substances have been added, and also does hereby prohibit and forbid the addition of such substances to gasoline intended to be used for above purposes.

Be It Further Resolved: That the Commissioner of Health continue his investigation, in order to obtain all necessary data bearing upon this subject.

A true copy.

Bulletin N. Y. City Department of Health.

REMOVALS

DR. JAMES T. FISHER, who formerly had an office at 553 Boylston Street, is now located in the Fisher Building, Los Angeles, Calif.

CORRESPONDENCE

THE WORTHY CASE

The following correspondence has been received:

My dear Mr. Editor:

I thank you for the aid which, through your kindness in cooperating with Dr. Fallon, has come to my husband and myself. We, ourselves, would never have thought of asking for it, yet it means much to us. Instead of being in want because of his sickness there is enough to pay the expenses and to leave a little so that I shall not be in want, if I happen to be sick for a little while. All this means so much! And when I know that my case is only one of many it is all the more wonderful that the doctors can do so much.

The letters were to be kept for me that I might thank each giver personally, but through some misunderstanding have not been kept.

I never realized before how much could be done when many people give small sums.

Please extend my heartfelt thanks to all contributors.

Yours sincerely,

THE WORTHY CASE.

VIENNA LETTER

POISONING OF A FAMILY BY CARBON MONOXIDE

A painful tragedy of poisoning by coal gas occurred in Graz, Austria, last week. Its victims included a whole family of the number of five. When the dead bodies of the occupants were found the gas was still escaping, and the irregular state of the gas connection satisfactorily explained the occurrence of the escape. But the peculiar feature of the fatality, which must prove interesting to the chemist and physiologist as well as to the pathologist and sanitarian, is that the evidence elicited at the inquest showed that the bodies all displayed the characteristic appearances found in cases of poisoning by carbon monoxide. This peculiarly deadly gas possesses a special interest for the physiological chemist, as it displays the special latent activity of unsaturated chemical compounds and a unique form of affinity for the haemoglobin of the red blood corpuscles. Accordingly it readily takes up the latter—in the capillaries of the pulmonary air vesicles—and carries it off to those of the various tissues. The various cellular constituents of the latter display their selective power by unloading the haemoglobin of its load of loosely combined oxygen and leaving it free for the further exercise of its functions as it returns

to the blood through the veins. Examination and chemical analysis of the gas has revealed the fact that it did not contain more than 6 per cent. of carbon monoxide—that is, the normal proportion present in the ordinary coal gas.

PROFESSIONAL SECRECY IN CASES OF ABORTION

A medical man was called lately, in Vienna, to attend a woman, who three days afterward confessed she had taken some powders sold by a druggist and had procured abortion. He did not tell the husband of the state of affairs for a fortnight, nor did he inform the relatives to whose house the patient was then removed. Lastly, he did not inform the doctor of the sanatorium to which she was finally taken, and where she died, of the cause of her condition, although he has stated that she was suffering from adnexitis. He excused himself to the coroner on the ground that the matter was one of professional confidence and he did not regard the woman's condition as serious enough to warrant the taking of depositions. Public opinion asserted in the lay press commended him for his reticence in so far as the relatives were concerned, but the medical press saw no reason why information, even of this delicate kind, should not have been imparted by him to the other medical men under whose care the patient subsequently came. Such an act could never be construed as a breach of confidence. Nevertheless, all medical papers accented that it is preferable that medical practitioners should err on the side of discretion rather than the contrary, but the fact must not be overlooked, they say, that by remaining the sole depository of such a secret the practitioner incurs the risk of passing as an accomplice, besides making himself liable to the suspicion of having had a share in the fact.

ACTION AGAINST A DENTIST FOR MALPRACTICE

Dr. J. B. was the defendant in an action tried at the Linz Assizes, last week, in which damages were claimed against him for unskilful extraction of a tooth. It seems that as a preliminary step to fitting a denture he had occasion to extract a canine tooth which had made its appearance only six months previously. In the attempt to extract the tooth it was pushed through the upper maxilla and apparently pierced the upper wall of the antrum, injuring the cartilage of the nose. This was not known to the patient at the time, but he suffered severely after the operation, and later his attention was called to the incident by another dentist, whom he consulted for another tooth. The jury returned a verdict for the defendant on ground of the opinion of a forensic expert, who said that the accident appears to be rare, if not quite unique, and there was abundant evidence to show that its occurrence did not imply any negligence or want of skill.

ALCOHOLISM AMONG WOMEN

The president of the Public Health Board, in explanation of the proposed legislative restriction of licenses, has stated that drunkenness among women had increased, and in fifteen years the number of deaths from intemperance in women had doubled, though even now their number is well under those of the Western European countries. He showed that there has been a great multiplication during recent years of the facilities for drinking, and that the demand for legislation went far beyond and covered a wider area than so-called temperance organizations. If the Board of Health would appeal to the leaders of the medical profession, or for the matter of that, to the rank and file of medical practitioners, they would quickly find that the danger they are seeking to avert is very real and demands immediate attention. The alcoholization of large numbers of women is becoming a danger to the State and goes far to account for much of the physical inefficiency of large numbers of the uprising generation.

THE MARRIAGE OF CONSUMPTIVES

At a recent meeting of the Grosswardein Medical Society, Dr. Melchior Grosz, senior hospital physician, delivered an address on the above subject. He said that the whole tendency of modern treatment of phthisis is to bolster up tuberculous individuals. So far as the more humane feelings are concerned there is little to be said, for sentiment will probably never be ousted from the scheme of practical politics. All the same it is open to question whether in some points we have not got the wrong end of the stick; he says, why should tuberculous persons be allowed to marry and bring into the world offspring with tendencies that are almost certain to sooner or later render them a burden on society. Would it not be more logical, as well as in reality kinder, to forbid such marriages? Legislation is, of course, a drastic remedy, nevertheless it is invoked in almost every one of man's relationships to the complex system of modern life. The only argument of any weight that can be advanced, says Dr. Grosz, as a rule, against the protection of the race by forbidding marriage to the phthisical is the fact that brilliant mental qualities are often found in families affected in that way. But, from the other hand, many other families produce men and women who are as vigorous in their brains as they are muscular, large-limbed and athletic in their bodies.

LEPROSY IN BOSNIA

Dr. Louis Nekam, lecturer on dermatology at the University of Budapest, has returned from Bosnia, whither he betook himself some months since for the purpose of studying on the spot the probable causes of the prevalence of leprosy in that country. He found that the disease is very sparingly distributed over the whole of Bosnia, the newly adjoined part of Yugoslavia, and is nowhere very abundant, and it affects principally the ancient Mohammedan races. The principal point of interest in the observations made by Dr. Nekam is the confirmation of Hutchinson's theory that leprosy is due to the consumption of badly cured salt fish in South Africa, with the difference that in Bosnia it is due to the consumption of badly cured goat's meat. Dr. Nekam is constrained to admit, too, that the evidence is in favor of the disease being sometimes communicated from man to man, not, however, by direct contagion, but by the consumption of food contaminated by manipulation by leprosy persons. Inasmuch as this method of transmission is possible only under cover of the grossest hygienic neglect its spread mainly among the native races is explained. The conclusions formulated by Dr. Nekam are in favor of legislative control of meat-curing establishments, the education of the public as to the methods of transmission, and the establishment of small leper homes, into which the victims of the disease should be induced to go during the infective period.

REPORTS AND NOTICES OF MEETINGS

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The next meeting will be held at the Lynn Hospital Thursday evening, February 12th, 1925.

Clinic by members of the Staff at 5 P. M.
Dinner at 7 P. M.

Speaker, Dr. Douglas A. Thom, Director of the Division of Mental Hygiene, Massachusetts Department of Mental Diseases.

His subject will be "Mental Hygiene in Medicine."

Meeting Wednesday, March 4, 1925, at the Essex Sanatorium, Middleton.

Clinic at 5 P. M.
Dinner at 7 P. M.
Speaker, Dr. Frederick T. Lord of Boston.
Subject, "Certain Aspects of Diseases of the Bronchi, Lungs and Pleura."

THE HARVARD MEDICAL SOCIETY

THE next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, February 10, at 8.15 P. M. The program follows:

1. Demonstration of cases.
2. The Present-Day Trend in the Treatment of Genito-Urinary Infections, Dr. W. C. Quinby, Peter Bent Brigham Hospital
3. The Mechanism and Treatment of Lead Poisoning, Dr. J. C. Aub, Harvard Medical School.

All members of the medical profession, medical students and nurses are invited.

S. A. LEVINE, *Secretary*.

THE AMERICAN CONGRESS ON INTERNATIONAL MEDICINE

THE Ninth Annual Clinical Session of the American Congress on Internal Medicine will be held in Washington, D. C., March 9-14, 1925.

Washington clinicians and investigators of attainment will devote the entire session to amphitheatre and group clinics, ward "rounds," laboratory conferences, lectures, demonstrations of special apparatus and methods, and the exhibition of unusual scientific collections. Civilian and governmental services are united in the aim to make the week useful and memorable.

Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session.

Address enquiries to the Secretary-General.

WM. GERRY MORGAN, *President*.

Washington, D. C.

Frank Smithies, Sec'y.-Gen'l.,
1002 N. Dearborn St.,
Chicago, Ill.

MEDICAL RESERVE OFFICERS MEETING

THE next meeting of the Medical Reserve Officers will be held at the Medical Library, 8 Fenway, Boston, Mass., on Feb. 11 at 8 p. m. This will be one of the best meetings of the winter with Col. Hans Zinsser, of Harvard, Col. Wm. J. L. Lyster and Col. F. E. Buchan, Chief of Staff of the XI Corps, O. R., as speakers. These meetings are open to all medical, dental and veterinary men in New England as well as all Reserve Officers and it is hoped as many as can find time will attend.

For any further information call Major Henry S. Beckford, M. C., U. S. A., at Main 2700, Branch 37.

NEW ENGLAND PEDIATRIC SOCIETY

THE eighty-ninth meeting of the New England Pediatric Society will be held at the Boston Medical Library, on Friday, February 13, 1925, at 8.15 P. M.

The following papers will be read:

1. Theory of Water Transfusion,
Thomas E. Buckman, M.D., Boston, Mass.
2. Fat Absorption in Infants,
Richard C. Tefft, M.D., Boston, Mass.
3. Blood Changes in Dehydration,
Daniel C. Darrow, M.D., Boston, Mass.

Light refreshments will be served after the meeting.

KENNETH D. BLACKFAN, M.D., *President*,
JOSEPH GARLAND, M.D., *Secretary*.

THE NEWER KNOWLEDGE OF THE PHYSICAL HEALTH OF CHILDREN

A COURSE of fifteen lectures on The Newer Knowledge of the Physical Health of Children will be given in Boston University School of Education by eminent experts on child health under the direction of J. Mace Andress, Ph.D., Lecturer on Health Education, Boston University and Boston School of Physical Education, and with the coöperation and endorsement of the Massachusetts Department of Public Health.

The lectures will be given on successive Tuesday evenings, at eight o'clock, in Jacob Sleeper Hall, Boston University, 688 Boylston Street, Boston, from February 10 to March 31, April 14 to May 26.

The course will be of practical value to teachers, parents, nurses, social workers, and to all who are responsible for the training of children. These lectures will be plain, common-sense talks in non-technical language. Each lecture is followed by a period of general discussion.

Credit of one point will be given toward the degree of Bachelor of Science in Education in the School of Education, and the Boston Board of Superintendents will accept the course for promotional credit. Those enrolling in the course for degree credit must attend at least thirteen lectures and meet the other requirements announced by the Director of the course.

No charge is made for the lecture on February 10. The fee for a transferable course ticket is \$10.00. Single admission tickets are sold at \$1.00 each.

The list of speakers and subjects is as follows:
I. Dramatic Episodes in Health Progress.
Eugene R. Kelly, Commissioner, Massachusetts Department of Public Health. February 10.

II. Safeguarding the Health of Mother and Baby.
Merrill E. Champion, M.D. February 17.

- III. At the Threshold of School Life. Richard M. Smith, M.D. February 24.
IV. How Do Internal Secretions Affect Growth? By Karl M. Bowman, M.D. March 3.
V. The Malnourished Child and Tuberculosis. Henry D. Chadwick, M.D. March 10.
VI. Growth and Health. Fritz Talbot, M.D., Harvard Medical School. March 17.
VII. The Newer Knowledge of Nutrition. Lou Lombard. March 24.
VIII. Experiments with the Fatigue Type of Child. W. F. Kenny, M.D. March 31.
IX. What is the Toothbrush Good For? Harold DeW. Cross, D.M.D. April 14.
X. The New Physical Education. Ethel Perrin. April 21.
XI. Stand Tall. Sit Tall. Norman W. Fradd. April 28.
XII. Physical Health as the Foundation of Mental Health. George K. Pratt, M.D. May 5.
XIII. Are Children's Diseases Necessary? Edwin Place, M.D. May 12.
XIV. The Health of the Child Who Goes to Work. Mr. Raymond G. Fuller. May 19.
XV. Measurement in Health Education. J. Mace Andress, Ph.D. May 26.

HARVARD SCHOOL OF PUBLIC HEALTH

DR. W. S. RANKIN of North Carolina will give the Cutler Lecture on Thursday, Feb. 12th, at 3 o'clock on "Possibilities of Standards for Public Health Department Practices."

On Feb. 24, 26 and 27, Dr. W. S. Smillie of the Alabama State Board of Health will deliver three lectures on the following subjects:

- (1) The Organization of County Health Units in the South.
- (2) Recent Advances in the Epidemiology of Malaria.
- (3) The Epidemiology of Hookworm, Organization of Methods of Control.

Dr. E. E. Tyzzer's course in Parasitology began on Wednesday, January 28th.

HARVARD MEDICAL SCHOOL

FREE PUBLIC LECTURES ON MEDICAL SUBJECTS

The Faculty of Medicine of Harvard University offers a course of free public lectures on medical subjects to be given at the Medical School, Longwood Ave., Boston, on Sunday afternoons, beginning February 1st and ending on April 26th, 1925. The lectures will begin at four o'clock and the doors will be closed at five minutes past the hour. No tickets are required.

Feb. 1st—Is Diet a Factor in Dental Disease?

Dr. Percy R. Howe

Feb. 8th—Some Factors Affecting Growth.

Dr. Walter B. Cannon

Feb. 15th—Gas Poisoning and Electric Shock with a Demonstration of Treatment.

Dr. Cecil K. Drinker

Feb. 22nd—The Conquest of the Contagious Diseases.

Dr. Edwin H. Place

March 1st—The Family Medicine Closet.

Dr. Francis W. Palfrey

March 8th—Abdominal Surgery in Childhood.

Dr. William E. Ladd

March 15th—Diabetes. How to Avoid It, How to Live Long With It.

Dr. Elliott P. Joslin

March 22nd—The Hygiene of the Heart.

Dr. Wm. H. Robey

March 29th—Disturbances of Urination in Men. (To men only)

Dr. William C. Quinby

April 5th—Relief and Delusion.

Dr. C. MacFie Campbell

April 12th—Easter Sunday—No lecture.

April 19th—Posture, Exercise and Health.

Mr. Norman W. Fradd

April 26th—Modern Obstetrics. (To women only)

Dr. Franklin S. Newell

CHILDREN'S HOSPITAL STAFF CLINIC

A STAFF CLINIC of the Children's Hospital will be held in the Amphitheatre of the Hospital on Friday, February 13th, at 4:30 P. M. Physicians are cordially invited to attend.

THE LAWRENCE MEDICAL CLUB

THE Monthly Meeting of the Club was held Monday evening, Jan. 26, with Chas. J. Burgess, M.D., 37 Whitman St.

Chairman for the evening, Frank A. Conlon, M.D. Subject, "Myocardial Insufficiency," Joseph H. Pratt, M.D., Boston.

This was the initial meeting of the Club in Burgess Hall.

The subject of regular periodical physical examination of all individuals, by the family physician, was discussed and suitable blanks were furnished to the Club members for their use.

THE MEETING OF THE MIDDLESEX NORTH DISTRICT

THE abnormally low temperature of January 28 did not chill the enthusiasm of the members of this district, for fifty per cent. of the members attended. Dr. Bigelow, President of the Massachusetts Medical Society, was present and reports that this was one of the best meetings that he ever attended. The papers were interesting and general discussion followed. A good dinner was served. The session lasted from 3 to 8:30.

Insulin and fractures, and some general matters relating to practice, were discussed.

THE MEETING OF THE NORFOLK DISTRICT

ALTHOUGH the twenty-seventh was stormy, a fair proportion of this District met in the Masonic Temple for the regular meeting. After

the transaction of routine business Dr. A. S. Begg, Dean of Boston University School of Medicine, spoke at length on "The Trend of Medical Education" explaining the underlying purposes of those engaged in teaching medicine. The different methods employed throughout the country were explained, especially those at the Boston University Medical School where the curriculum is designed to develop practitioners. The address created much interest and led to questions and discussion.

Dr. W. P. Bowers also spoke, paying especial attention to some impending changes in medical practice.

A MEMORIAL MEETING

THE Massachusetts Psychiatric Society held a memorial meeting in honor of Dr. Walter E. Fernald, the society's first president, at the Boston Psychopathic Hospital, on Tuesday evening, January 20th, 1925.

Dr. Thomas W. Salmon, Professor of Psychiatry of Columbia University and formerly Director of the National Committee for Mental Hygiene, with which Dr. Fernald was closely connected for many years, spoke concerning Dr. Fernald's "National Achievements." Dr. George L. Wallace, Superintendent of the Wrentham State School, Wrentham, Mass., who for many years was very closely associated with Dr. Fernald, took as his subject, "The Man." Dr. Warren A. Stearns told of Dr. Fernald's "Psychiatric and Scientific Contributions."

The meeting was well attended by members of the Massachusetts Psychiatric Society, The Boston Society for Neurology and Psychiatry and many others.

THE TRUDEAU SOCIETY MEETING

THE third meeting of the Trudeau Society of Boston was held at the Boston Medical Library, January 13, 1925, with the President, Dr. John B. Hawes, 2nd, presiding.

Dr. Wyman Whittemore of Boston read a paper on "Surgery of the Lungs with Special Reference to Tuberculosis." His remarks were sane and sound, eminently practical and demonstrated the remarkable advance which has been made in this subject by thoracic surgeons in the past five years.

Dr. Gerardo Balboni of Boston spoke concerning "The Use of Artificial Pneumothorax in the Treatment of Tuberculosis and Other Pulmonary Conditions." He presented two patients in each of whom he had alternately collapsed both lungs with remarkably good results. Dr. Balboni is to be congratulated on his remarkable success in this unusual procedure.

Dr. Cleaveland Floyd of Boston spoke on

"Mechanical Appliances and Posture in the Treatment of Tuberculosis," giving the latest and most practical ideas on this subject.

These papers were discussed at length by Drs. Otis, Chadwick, Wagner, Pettingill, Clifford and others.

O. S. PETTINGILL, M.D., *Secretary.*

THURBER MEDICAL ASSOCIATION

THE meeting of this Association was held on Thursday, February 5, at the Nurses' Home, Milford, at 3 o'clock in the afternoon.

The general subject was, "What Can We Do For Cancer?"

The principal paper of the afternoon was presented by Dr. Frederick Bryant of Worcester, entitled "Cancer and the Twentieth Century."

The paper was discussed by Dr. Shaughnessy of Framingham, and Drs. Harvey, Curley, Gallagher, and others of our members.

This is our Cancer meeting for the year.

SOCIETY MEETINGS

Essex North District Medical Society

May 6, 1925. Annual meeting at Lawrence.

Franklin District Medical Society

The meetings of the Franklin District Medical Society will be held on the second Tuesday of March and May.

Hampden District Medical Society

Meeting to be held on the third Tuesday in April.

Hampshire District Medical Society

The meetings will be held the second Wednesday of March and May.

Middlesex East District Medical Society

Wednesday, March 18. Harvard Club. Dr. John H. Cunningham, "Urinary Retention: Its Significance and Treatment."

Wednesday, April 15. Harvard Club.

Wednesday, May 13. Colonial Inn, North Reading.

Middlesex North District Medical Society

April 29, 1925.

Middlesex South District Medical Society

Winter Schedule.—The plans for winter meetings of the Society include the stated meeting in April, two hospital meetings, and five meetings to be held in conjunction with the Suffolk District Medical Society and the Boston Medical Library (two surgical, two medical, and one general).

Norfolk District Medical Society

February 24, 1925. Masonic Temple. Subject: "The Need of Periodical Physical Examinations and How to Make Them." Speaker: Dr. Francis H. McCrudden. A second speaker will be selected to present another subject at this meeting.

March 31, 1925. Tufts College Medical School. This meeting given over to Drs. Leary and Watters for the purpose of giving us a medical examiners' talk.

Norfolk South District Medical Society

Meetings will be held the first Thursday of each month to May, inclusive, at 12 noon, at the Norfolk County Hospital, South Braintree.

Suffolk District Medical Society

February 25. Surgical Section, in association with the Middlesex South District Medical Society. "Pyelonephritis," Dr. Arthur H. Crosby.

March 25. Medical Section, in association with the Middlesex South District Medical Society. "The Treatment of Pneumonia," Dr. Edwin A. Locke.

April 29. Annual meeting. "Hypertension and Longevity," Dr. Harold M. Frost.

Worcester District Medical Society

February 11, 1925. Memorial Hospital, Worcester. Papers will be read by the members of the hospital staff.

March 11, 1925. St. Vincent's Hospital, Worcester. Papers will be read by the members of the hospital staff.

April 9, 1925. Subject and speaker to be announced.

May 14, 1925. Annual meeting.

If you desire further information in regard to these meetings write to the Secretaries of the District Medical Societies (listed on page xviii of the Advertising Section). The Massachusetts Medical Society Directory contains their addresses.